



SERVICE RESEARCH CENTER  
CTF | CENTRUM FÖR TJÄNSTEFORSKNING

QUIS 13

# SERVICE EXCELLENCE IN MANAGEMENT

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# SERVICE EXCELLENCE IN MANAGEMENT

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## PREFACE

QUIS is considered to be one of the world's leading biannual symposiums on service research and management practice. QUIS gathers thought leaders from the global business and academic communities for an open exchange of insights and experiences. The best of interdisciplinary academic research and management practice is presented and discussed.

The objectives of QUIS sharing and networking events are to:

- Promote the continuing improvement of service excellence in all economic sectors around the world.
- Share and advance the state of the art in theory and practice through presentations and discussion of scholarly research and successful business strategies.
- Provide a forum for intensive global dialogue between researchers and executives and to offer guidance for future academic study.

The first QUIS symposium took place in Sweden 1988. QUIS is held every second year and attracts leading researchers and executives from all over the world. The QUIS symposium usually draws attendees from more than 30 countries.

Leading, managing and organizing for service excellence is a never-ending quest by organizations seeking to achieve outstanding performance in their fields. Benchmarking one's own approaches against other organizations' best practices and gaining insights from their experiences are powerful means for enhancing results. Papers presented at QUIS13 give a comprehensive overview of scholarly and managerial advances in service excellence and management with contributions from around the world. Well-known scholars and business executives share their views, research and experiences gained in using innovation and leadership in the pursuit of service excellence. A number of themes are covered such as service innovation and design, technology in services, service culture and leadership, complaint management and service recovery, transition from products to service in manufacturing, service logic, human resource management, customer experience, service operations management, service marketing and customer management, service science, transformative service and service quality put into action.

The 13<sup>th</sup> International Research Symposium on Service Excellence in Management, on which this proceeding is based, took place in Karlstad, Sweden June 10-13, 2013, and was hosted by: CTF, Service Research Center, Karlstad University, Sweden in conjunction with Center for Services Leadership, W. P. Carey School of Business, Arizona State University, USA, and Center for Hospitality Research, School of Hotel Administration, Cornell University, USA.

From an array of around 150 presentations, we as co-chairs are pleased to present some of the most thought-provoking papers. We are convinced

that you will find the papers stimulating and useful in your own work. We thank all contributors that made this event so successful, but especially Assistant professor Erik Wästlund, proceedings coordinator and Ingrid Hansson, symposium coordinator.

With many thanks and best wishes

Bo Edvardsson, Anders Gustafsson, Mary Jo Bitner and Rohit Verma  
Co-chairs

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## **A NEW GENERATION OF SERVICE CUSTOMERS**

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### **ABSTRACT**

The general objective of this research is to find out the level of skepticism to advertising of Young Mexican consumers and if they can be classified, in order to generate a typology, based on the brand experience dimensions scale. This could help General and Marketing managers, specially in Service organizations, to focalize their approach to them in their communication efforts, looking to increase their possibilities of success. The results obtained imply that the service organizations are facing the challenge of overcome skepticism to get the attention of new generations, four types of consumers emerged with very specific characteristics that define the way in which they must be approached.

### **INTRODUCTION**

Services are crucial to the Mexican economy; they represent nearly 64% of Mexican GDP. Services need to offer differentiation; marketers need to create Customer experiences, since It is more appropriate for managers to think about how a stream of experiences will develop over time in order to achieve a sustainable competitive advantage. On the other hand Y generation represents 25% of the total population in México. A greater understanding of Y generation's role model influences can help organizations and their advertising agencies more effectively target and communicate to this growing market.

There are good reasons for marketers to be interested in what young people think about advertising. However, because Y generation lives an unusually dynamic stage of social and cognitive development, it is inadequate to assume that the social, beliefs and cognitive process of young consumers are the same than the ones for children or older adults. The focus of the present study is to evaluate the level of skepticism that Y generation perceives from advertisers. Specifically, we will examine Y generation using the brand experience dimension in order to better understand their profile, attitudes, and beliefs. The purpose is to provide a more detailed recommendation to practitioners of each dimension.

The general objective of this research is to find out if the Young Mexican consumers can be classified in order to generate a typology that could help General and Marketing managers to focalize their approach to them in their communication efforts looking to increase their possibilities of success, at the same time to determine the level of skepticism to advertising they face of this new consumers.

1.- Determine the level of skepticism to advertising of Young Mexican consumers

- 2.- Establish if the level of skepticism varies according with the demographic variables
- 3.- Generate a typology of consumers based on the Brand experience scale
- 4.- Determine the level of skepticism to advertising for each type of consumer

## CONCEPTUAL FRAMEWORK

Y generation is subject to outrageous levels of daily exposure to advertisement, resulting in self-mechanisms that ignore most of commercial stimuli. In order to stand out from the cluttered advertising environment, brands have to improve their communication channels and find new means of persuade consumers. Brand experience allows companies to engage in the process of message transmission making it pleasant and delivering a valuable entertaining brand experience.

Brand experience is conceptualized as sensations, feelings, cognitions, and behavioral responses evoked by brand-related stimuli that are part of a brand's design and identity, packaging, communications, and environments. Brakus, Schmitt, & Zarantonello, (2009). It is a component of Customer Experience Management (CEM). CEM is a practical management tool that demonstrates in detail how marketers can provide experiential value to customers and, in turn, derive financial value for their firms. Schmitt, (2003).

One of the more challenging aspects of delivering customer experience relates to how to measure. Generally speaking, the more customers an organization is trying to serve, the more complex the challenge becomes. Some researchers have studied and classified brand experiences, for instance Dewey's (1922,1925) classified five different experiences, Later on Dubé and LeBel (2003) distinguish four "pleasure dimensions": intellectual, emotional, social, and physical pleasures. Pinker made studies including sensory and behavioral components. Nonetheless nobody have design a reliable scale until Brakus et al (2009) proposed a scale for brand experiences consisting of four dimensions: sensory, affective, behavioral, and intellectual. Empirically, they developed a scale that measures each facet of experience and show that different brands can be differentiated on these experience factors.

Born in the mid-1980's and later, Generation Y are in their 20s and are just entering the workforce. With numbers estimated as 26.8% of the total population in México,(INEGI, 2012). Marketers cannot ignore the needs, desires and attitudes of this vast generation. For marketers, the Generation Y represent a challenge, beyond their demographic diversity, marketers need to recognize distinct behaviors, preferences, attitudes, and values that set this group apart from the rest.

Let's start with some generalizations about Gen Y: they have been accustomed to using computers from an early age and therefore make

intensive use of electronic media, they seek diverse communities online and offline, are idealistic and socially conscious, and they use the internet, as part of the purchase decision process. Generation Y is a generation where “creativity” is part of its days; friendship groups are defined by it; this is a generation who has found new avenues for self-expression Noble, Haytk and Phillips, (2009), making and sharing their own photos, films, music, websites and blogs. Brands become the set of symbols available for consumers to use in constructing and communicating notions of self Schau and Gilly (2001).

Advertising is changing among this group since they interact through brand communities. A brand community is “a specialized, nongeographically bound community, based on a structured set of social relationships among admirers of a brand” Muniz and O’Guinn (2001) p4. Marketers need to let consumers come up with their own ideas and product designs as well as ways to make them happen and bring the product to life in the market place. Brand communities are the avenue that allow young people involve themselves much earlier in the innovation and marketing process and keeps them involved for much longer with the brand.

Skepticism toward advertising is defined as the general tendency toward disbelief of advertising claims Obermiller & Spangenberg, (1998). The combination of Generation Y’s economic power and skepticism regarding advertising methods has forced advertisers to refocus their advertising on this demographic segment. They are less likely to trust an ad than any other generation, through the Internet, they can either verify or disprove the accuracy of almost anything told to them by parents, teachers, politicians, and advertisers Wolburg and Pokrywczynski, (2001).

In a world where it is increasingly difficult to target and connect with consumers, non-traditional ways of advertising are growing in importance. Consequently, Brand Experience has become big business in recent years with marketers shifting toward engaging consumers on a personal level by marketing their brand in a live environment. Customer experience Management specifically brand experience has become particularly prevalent in the youth market - young people can be more open to experiential or Brand Experience marketing that reaches them in clubs and brand communities. Consequently, the skill sets needed by marketers are evolving. Additionally an understanding of how marketing campaigns work

## METHOD

A sample of 400 young Mexican consumers were used to conduct the study, the participants belong to a A/B and C socio-economical level and were 15 to 24 years old, they were selected because they are starting and/or have relatively short time to started to make purchase choices and they are the ones that must be important to reach for the marketing professionals. In Mexico, the National population Commission (CONAPO 2010) defines two sets of ages, one from 15 to 19 years called adolescents, and other from 20 to 24 years called young adults, moreover the National Institute of Statistics, Geography and Informatics (INEGI 2011) establishes

that 59% of individuals over 14 years old in the country are economically active.

The sampling method was non-probabilistic by convenience, the sample size was calculated for an infinite population using the formula proposed by Bernal (2010) with a level of confidence of 95%, the sample size obtained was 384 participants and was rounded to 400.

The applied questionnaire included 3 sections, first the scale developed by Obermiller & Spangenberg (1998) to measure skepticism, the scale contains 9 items measured by a 5 points Likert scale, the anchors were 1 fully agree and 5 fully disagree. The second section was to determine types of consumers using the Brand experience scale developed by Brakus, Schmitt & Zarantonello (2009), the scale contains 12 items, over 4 dimensions of brand experience: sensory, affective, intellectual and behavioural brand experiences; and finally. a set of demographic variables like age, gender, level of education, occupation and socioeconomic status. We used back translation with the scales, applied a pilot test and use Cronbach' alpha to test reliability.

The analyses of data were performed using SPSS and involved some statistical procedures and multivariate techniques: factor analysis principal components with varimax rotation, and descriptive statistics were used to determine levels of skepticism; and one-way ANOVA to establish differences between segments derived from the demographical data and types of consumers among others.

Hierarchical cluster analysis was used to create a typology of consumers grouping them based on the brand experience dimensions, the criteria used to determine the optimal number of clusters was calculate the rate of change of the error coefficient among the clusters and the evaluation of the distribution based on the size of the clusters. A discriminant analysis was performed to check the precision of the classification. We calculate the medias of each dimension inside each cluster to identify and gave a name congruent with its characteristics, and finally media of skepticism in each cluster.

## RESULTS

The brand experience Brakus et al (2009) and the skepticism toward advertising scales(Obermiller and Spangenberg, (1998), were analyzed through Cronbach's alpha to assess internal consistency of the items of each one. The Brand experience scale obtained a coefficient of 0,883, and for the scale of skepticism the coefficient was 0.776. considering that all coefficients are greater than 0.6 Malhotra, (2008) it can be concluded that both scales have a satisfactory reliability.

The results obtained showed that the participants tend to be skeptic to advertising, the sample was segmented based on gender, occupation, socioeconomical status and level of education, but there were not found evidence of statistical significant differences, only the variable age showed that the youngest participants of the sample are less skeptics than the

oldest ones.

Most of the variables in the scale of skepticism toward advertising were between 2 and 3, the variables related to advertising and truth obtained the lower scores, however the variables establishing advertising as a means of information obtained the highest scores. We calculated the overall average of the averages of each variable and resulted in a value of 2.7205, the value is placed between the disagreement and the neutral point on the scale of measurement, therefore, based on these results it can be concluded that young consumers tend to be skeptical toward advertising. Table 1 presents the results obtained.

To achieve the objective of generate a typology of customers based on the brand experience dimensions, we conducted a series of analysis, the first being descriptive statistics of the overall mean of each of the items of the brand experience scale. Furthermore, a calculation was performed by the average for the entire sample dimensions and determined that the sensory dimension was the highest with a coefficient of 4.6550, in contrast the lowest dimension was the intellectual with a coefficient of 3.0331. Results are presented in Table 2.

Table 1: Descriptive statistics for the level of Skepticism

	N	Mean	Standard Deviation
We can depend on getting the truth in most advertising	400	2.5325	1.16074
Advertising's aim is to inform the consumer	400	3.3250	1.32619
I believe advertising is informative	400	3.1800	1.22120
Advertising is generally truthful	400	2.5300	1.13681
Advertising is a reliable source of information about the quality and performance of products	400	2.5625	1.15518
Advertising is truth well told	400	2.1425	1.08634
In general, advertising presents a true picture of the product being advertised	399	2.6441	1.14464
I feel I've been accurately informed after viewing most advertisements	400	2.5825	1.14520
Most advertising provides consumers with essential information	400	2.9850	1.16755
Valid N (listwise)	399		
Overall average scale skepticism		2.7205	

Table 2: Descriptive statistics of the brand experience scale

	N	Mean	Standard Deviation
This brand makes a strong impression on my visual sense or other senses.	400	4.7800	1.65028
I find this brand interesting in a sensory way.	400	4.4775	1.71372
This brand does not appeal to my senses.	400	4.7075	1.88436
This brand induces feelings and sentiments.	400	3.6250	1.78531
I do not have strong emotions for this brand.	400	3.8875	2.05436
This brand is an emotional brand.	400	3.3100	1.82269
I engage in a lot of thinking when I encounter this brand.	400	2.8600	1.85580
This brand does not make me think. °	400	2.5725	1.77274
This brand stimulates my curiosity and problem solving.	399	3.6667	2.23532
I engage in physical actions and behaviors when I use this brand.	400	3.2025	2.24702
This brand results in bodily experiences.	399	3.0251	2.00486
This brand is not action oriented. °	400	4.3575	2.10375
Valid N (listwise)	398		
Average of the sensory		4.6550	
Average of the affective		3.6075	
Average intellectual dimension		3.0331	
Average behavioral dimension		3.5284	

Hierarchical cluster analysis was used to create a typology of consumers grouping them based on the brand experience dimensions, we applied the established criteria and the result was optimal with 4 clusters. We used discriminant analysis to assessed the distribution of cases and the result was that 88.4% of the cases were correctly assigned, whereas the probability of assigning cases randomly on 4 groups is 25%. Malhotra, (2008). the results are presented in Table 3.

Table 3: Report average for Brand experience scale for four groups of conglomerates

	Conglomerate 4 groups			
	1	2	3	4
This brand makes a strong impression on my visual sense or other senses.	3.8065	5.4155	5.2149	3.5714
I find this brand interesting in a sensory way.	3.3118	5.1620	5.1983	2.7381
This brand does not appeal to my senses.	3.2581	4.8380	5.9256	4.0476
This brand induces feelings and sentiments.	2.5161	4.425	3.9669	3.9669
I do not have strong emotions for this brand.	2.3441	4.2535	4.4545	4.5000
This brand is an emotional brand.	2.3226	4.1268	3.6612	1.7619
I engage in a lot of thinking when I encounter this brand.	1.8387	3.6338	3.2149	1.5000
This brand does not make me think.	1.7527	3.3380	2.6694	1.5238
This brand stimulates my curiosity and problem solving.	1.6989	3.9859	3.9256	6.1905
I engage in physical actions and behaviors when I use this brand.	1.7312	5.5352	2.2562	1.3333
This brand results in bodily experiences.	1.6882	4.9225	2.3471	1.5714
This brand is not action oriented.		4.7324	4.2810	5.8810
Average sensory dimension	3.4588	5.1385	5.4463	3.4524
Average affective dimension	2.3943	4.2676	4.0275	2.9048
Average intellectual dimension	1.7634	3.6526	3.2700	3.0714
Average behavioral dimension	2.2151	5.0634	2.9614	2.9286
Total average conglomerates	2.4579	4.5305	3.9263	3.0893

Finally, an ANOVA F-test was performed to determine if differences between the four groups are statistically significant, the results obtained show that the four groups are different from each other thorough all the 12 items of the brand experience scale. In their study Zarantonello et al (2010) obtained 5 clusters. We examined the means for each experience dimension to understand the differences among them, and 3 clusters were consistent with Zarantonello's findings, the ones named utilitarians, holistics, and inner-directed consumers, the fourth cluster that we obtained was named intellectuals consumers, this results and the average in each dimension inside the clusters is presented in Table 4

Table 4: Means of the dimensions of the brand experience scale for the 4 clusters solution.

	Clusters 4 groups			
	Utilitarians	Holistics	Inner-Directed	Intellectuals
Sensory	3.4588	5.1385	5.4463	3.4524
Affective	2.3943	4.2676	4.0275	2.9048
Behavior	1.7634	3.6526	3.2700	3.0714
Intellectual	2.2151	5.0634	2.9614	2.9286
Total average conglomerates	2.4579	4.5305	3.9263	3.0893

The characteristics participants in of cluster 1 show that they tend to value the functional characteristics of the product over the brand experience, in cluster two are the “holistics” consumers, who tend to prefer to be reach by the four different dimensions of brand experience, the third cluster contains the “Inner – directed” consumers, who tend to respond to the brand experience that appeals to their emotions or feelings, finally, in the fourth cluster are the consumers identified as “intellectuals” who tend to prefer the brand experience which commits them to think.

To define the correlation between the types of consumers and skepticism, we compared means of the skepticism scale for each of the 4 clusters, Table 5 shows the results.

TABLE 5: REPORT OF SKEPTICISM SCALE'S AVERAGE FOR THE CONGLOMERATE OF FOUR GROUPS

	Clusters 4 groups			
	Utilitarians	Holistics	Inner-Directed	Intellectuals
We can depend on getting the truth in most advertising	2.4731	2.7324	2.5041	2.0476
Advertising's aim is to inform the consumer	3.4516	3.3944	3.2479	3.0238
I believe advertising is informative	3.0860	3.3732	3.0992	2.9762
Advertising is generally truthful	2.4301	2.6479	2.6198	2.0952
Advertising is a reliable source of information about the quality and performance of products	2.4301	2.6549	2.6860	2.1667
Advertising is truth well told	1.9892	2.2676	2.2727	1.6905
In general, advertising presents a true picture of the product being advertised	2.4839	2.7746	2.8000	2.1429
I feel I've been accurately informed after viewing most advertisements	2.5161	2.6972	2.5868	2.3571
Most advertising provides consumers with essential information	2.9032	3.1056	3.0661	2.5238
Total average	2.6404	2.8498	2.7647	2.3360

The level of skepticism remained high, whereas the overall average obtained for the total sample was 2.7205, found that the trend of skepticism toward advertising among the four groups remains high. We analyzed the characteristics of the groups with the highest and lowest skepticism and we found that there is a relationship between the types and skepticism, as in the group of "intellectuals", here we have the participants who value experiences that engage thinking, so this is the group that tends to be more incredulous to advertising, with a media of 2.3360. On the other hand, the group named "holistics" was the closest to being indifferent toward skepticism, with a media of 2.8496, in this group are the participants with the highest scores in all dimensions, the ones that most valued the brand experience and tend to have a lower level of skepticism. It can be inferred that while consumers are satisfied in the four dimensions sensory, emotional, intellectual and behavior, they tend to be more indifferent to brand communication.

## IMPLICATIONS AND CONCLUSION

The results implies that the service organizations are facing the challenge of overcome skepticism to get the attention of new generations, and that they are different in the way they want to be approached by a Brand. Verification of a young skeptical population commits advertising companies to focus more on their efforts to engage consumers with the brand and thus create a relationship with consumers beyond the simple marketing of goods or services. We believe that the results obtained present a current view of young consumers and are relevant to help create that relationship, to know them better and help organizations to act accordingly to achieve the marketing objective raised.

Finally we must consider that skepticism is not free, is forged on the basis of the lack of congruence between what the product offers and what the consumer receives, plus unethical practices of some organizations, companies must evaluate objectively what they offer and fully accomplish.

## REFERENCES

- Bernal, C. (2010) Metodología de la investigación: Administración, Economía, Humanidades y Ciencias Sociales (3° Ed). Colombia: Pearson Educación
- Brakus, J., Schmitt, B. & Zarantonello, L. 2009, Brand Experience: What Is It? How Is It Measured? Does It Affect Loyalty? Journal of Marketing Vol. 73, 52-68
- Chen, F., y Leu, J. (2011). Product involvement in the link between skepticism toward advertising and its effects. Social behavior and personality, 39(2), 153-160. doi: 10.2224/sbp.2011.39.2.153
- Consejo Nacional de Población. (2010). Dinámica demográfica de la población joven en México. Recuperado de <http://www.conapo.gob.mx/publicaciones/juventud/capitulos/01.pdf>
- Green, G., Cordell, H. & DiStefano, C. (2006). Construction and Validation of the National Survey on Recreation and the Environment's Lifestyles Scale. Journal of Leisure Research, 38 (4), p.513-535
- Instituto Nacional de Estadística y Geografía de México. (2011). Perspectiva estadística México. Recuperado de: <http://www.inegi.org.mx/est/contenidos/espanol/sistemas/perspectivas/perspectiva-mex.pdf>
- Instituto Nacional de Estadística y Geografía de México. (2012). México en cifras. Información nacional, por entidad federativa y municipios. Recuperado de: <http://www.inegi.org.mx/sistemas/mexicocifras/default.aspx>
- Landan, R. (2006). Designing Brand experiences. Creating powerful integrated Brand solutions. Estados Unidos: Thomson.

Lerderman, M. & Sánchez, R. (2008). Marketing experiencial. La revolución de las marcas. Madrid: ESIC.

Malhotra, N.K. (2008). Investigación de Mercados (5° Ed.). México: Pearson Educación.

Mangleburg, T. & Bristol, T. (1998). Socialization and adolescent's skepticism toward advertising. *Journal of Advertising*, 27 (3), 13-21

Morrison, S. & Crane, F. (2007). Building the service brand by creating and managing an emotional brand experience. *Palgrave-journals*. 14, 410-421.

Muniz, A. & O'Guinn, T., (2001), "Brand Community," *Journal of Consumer Research*, (March).

Noble S., Haytko D., L,& Phillips, J., 2009, What drives college-age Generation Y consumer?, *Journal of business Research*, 62, 6, 617-628

Obermiller C. & Spangenberg E., 1998, Development of a scale to Measure Consumer Skepticism toward Advertising, *Journal of Consumer Psychology*, 7,2, 159-186

Obermiller, C. & Spangenberg, E. (1998). Development of a scale to measure consumer skepticism toward advertising. *Journal of consumer psychology*, 7(2), 159-186.

Obermiller, C., Spangenberg, E. & MacLachlan, D. (2005). Ad Skepticism. *Journal of advertising*. 34 (3) , 7-17. Petley, J. (2002). Advertising. Inglaterra: Media Wise.

Schau, H. & Gilly, M., (2001), "Consumer Self- Presentation in Computer-Mediated Environments," Working Paper.

Schmitt, B. (2003). Customer experience management. New Jersey, Estados Unidos: Wiley.

Wolburg, J. & Pokrywczynski, J.,2001, A Psychographic analysis of Generation Y, *Journal of Advertising Research*, 41, 5, 33-53

# **A NOVEL CATEGORIZATION OF INDUSTRIAL SERVICES - ANALYSIS OF SERVICE OFFERINGS OF MANUFACTURING COMPANIES**

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## **ABSTRACT**

The paper aims to propose a comprehensive practice-oriented industrial service categorization. The network analysis stream in service research is also used as a categorization basis. The model presents four main categories: Customer interface support services, Operative services, Improvement services, and Network services, with three hierarchy levels. The model will contribute to industrial practice by helping companies analyze and structure their service offerings. Construction of the model is based on the analysis of the offerings of seven large industrial service companies. The validity and usability of the new categorization was tested through the application of the full sample of services (1638 services), and qualitative interviews.

## **SERVITIZATION CHALLENGE**

The growing scope of services offered by manufacturing companies calls for a more structured service portfolio management and service-centric categorizations. Many classifications have been developed for product-related services but the gap between theory and industrial practices persists. The growing interest in networks and the revolution of supply networks is not yet apparent in classifications of industrial services either.

The central terminology in this research is related to servitization literature. Servitization refers to the shift in industrial markets for manufacturers to offer more and more services as a part of their core offering (Vandermere and Rada, 1988). This shift is accompanied with a required mindset change towards value and the customer interface. Services according to a narrow view are intangible assets that are performed instead of produced as a contrast to tangible and produced products (Baines et al., 2009). From a wider perspective services include also bundles or product-service systems that consist of both tangible and intangible components (Guiltinan (1987), Cova and Salle (2008)). Solutions are bundles that create value to customers and are more than sums of their parts (Cova and Salle, 2008).

The core challenge of servitization is its successful implementation - managerial activities are clearly linked with a servitizing company's ability to develop new services, service offering design and a new service-oriented business model (Gebauer et al. (2005, 2009), Baines et al. (2009) Kindström (2010)). Edgett stated (1994) that the development of industrial customer services should be managed just like the development of new products. Thus, service categorization is just as important as product categorization. The new service offerings should be clearly structured and thus made tangible.

One of the problems relating to servitization strategy implementation is that service categorizations remain often too theoretical for the use by companies, and most companies have no clear picture of their service offering (Baines et al., 2009). Most companies have a fragmented service division due to historical reasons of adding the services to product categories. Many services also have evolved from very simple add-on services to complex contracts but are still managed by the same way. Due to this evolutionary service development most industries also lack standardized terminology that makes comparing offerings between companies much more difficult. Kindström and Kowalkowski (2009) argue that many manufacturing companies have a number a services in their portfolios, but they are unstructured and often supplied free of charge to increase product sales. Being able to clearly formulate and communicate the service offering of a company makes servitization more likely to succeed and can give a significant competitive advantage (Edgett, 1994).

## EXPLORATION OF INDUSTRIAL SERVICE CATEGORIZATIONS

One of the earliest industrial service classifications is Grönroos's (1979) statement that services in an industrial service context can be classified either by the market where they are sold (producer or consumer) or by the kinds of services offered (professional or others). Silvestro et al. (1992) bring to focus the volume of customers per unit of service per period, proposing three basic archetypes: Mass Services, Service Shops, and Professional Services. These archetypes are characterized by differences in level of customization, product-/process orientation, equipment/people focus, the length of contact time, the level of discretion, and back/front office orientation.

Boyt and Harvey (1997) classify services into three categories according to their complexity; Elementary Services, Intermediate Services and Intricate Services. The replacement rate of services lowers, while complexity, essentiality and personalization grows when moving from Elementary Services towards Intricate Services. Sundbo (1999) and Viitamo (2007), lift the role of tangible offerings as a critical factor in the nature of services. Modularized services are semi-material, an intermediate between manufacturing and classical services". The critical differences between classical completely intangible services and modularized services include the transfer of ownership, the possibilities of reselling, storage, and level of customer inclusion. Kotler (2003) elaborates further on the tangibility of offerings by dividing them into six categories with a focus on how large a share is taken by tangible and intangible components. The range goes from pure tangible goods, through tangible goods with add-on services, hybrids, major services with accompanying goods and services, to pure intangible services.

Thoben et al. (2001) provide a framework that links the tangibility of offerings and their customer centricity. Their approach starts with Manufacturing parts, through Offering products and Offering Services to Provision of Benefits. In their view, adding the intangible components to the offering adds customer value, but Offering services includes also the offering of products. Cova and Salle (2008) provided clear definitions for

a business-to-business solution, a service bundle and a singular service. These three groups could also be viewed as a categorization of industrial services based on their scope.

Brax and Jonsson (2009) analyze the significance of the location where a service is performed, which could be viewed as a sort of service typology. Zeithaml et al. (1985) and Brax and Jonsson (2009) on the other hand raise the duration of the performance of a service as a central issue in defining service types.

Oliva and Kallenberg (2003) present a model of Installed Base service categorization that further lowers the level of abstraction in presenting service categories by the wide range of specific service type examples within their four categories: Basic Installed base services, Maintenance services, Professional Services, and Operational Services. The relevant dimensions are Transaction-based versus Relationship-based services, and Product-oriented versus End-user's process –oriented services.

Partanen and Kohtamäki (2011) base their categorization on a similar logic as Oliva and Kallenberg (2003). Their model consists of a similar Transactional based/Relational based services axis, combined with a process phase axis consisting of four phases structured by their relation to sales. The phases are Pre-sales phase, Sales phase, After-sales phase and Termination phase. These categories are not rigid, but more a continuum, where the service can spread to several phases. The Relational-based category includes Research and Development services, Operational/ Outsourcing services, Optimization services, Consulting services, Maintenance services, and Recycling services. On the Transactional-based side are Administrative services, Customer services, Basic services, and Supply management and warehousing.

Turunen and Toivonen (2011) present a product-service system based categorization model for industrial services that divides them into Services Supporting the Product (SSP), Services Supporting Customer Processes (SSCP) and Services Supporting Customer Business (SSCB).

The SSP enable the functioning of a product sold to the customer (traditional after sales services, such as on call repairs, spare parts and consumables). The required level of understanding concentrates on understanding the customer and the product sold. The SSCP ensure the optimal usage of the product (eg. preventive maintenance, inspections, modernizations and process optimizations). The required level includes understanding of also the customers' production processes and operative environment. The SSCB supports the growth and success of the businesses of customers (financial services, knowledge-intensive services, and integrated solutions) and require a profound understanding of the customers' business and strategy.

The world of industrial service categorizations is wide and diverse, but has historically been rather separate from practical offering portfolios. The perspectives vary and are often complementary to each other enabling cross-categorizing in many cases with interesting results.

## NETWORKS AND PLATFORMS

Vargo and Lusch (2008) define the addition of a context of networks instead of isolated customers as one of the distinctions between a service logic and a goods logic. A growing research stream focuses on the importance of networks and the revolution of supply networks. The amount of actors, complexity of the supply chains and varying control and interaction mechanisms in the industrial context are constantly growing due to servitization (Finne (2009), Wilkinson et al. (2000)).

Kohtamäki et al. (2012) bring into view the importance of enabling platforms in relationship building with customers. Relational practices enable social interaction when they create social platforms between the customer and the supplier (Kohtamäki and Bourlakis, 2012). A platform is a system that enables interaction or co-creation between several actors. A technology platform is a base for developers and users to interact and build on. In the context of industrial services, service platforms and industry platform take central stage. A platform leader is someone who holds the strings of collaborative relationships between the different complementary actors, and provides the collaboration frame.

## CONSTRUCTION OF CATEGORIZATION

The presented categorization was constructed by an iterative process using both theory and extensive empirical data. Initially, seven categorizations were tested, out of which three were dropped after testing. Next, two more specific new categorizations were added, and together with the four remaining models, and empirical data they were used to build the proposed new categorization. The lowest level categories have their roots in the data, and the higher levels are deeply rooted in existing literature.

The seven categorization logics that the data testing was started with were Tangibility of service, Logics of service, Perspectives of service, Location of service performance, Duration of service, Service combination, and the Service target model. The usability of these was assessed based on categorization trials with comprehensive service offering data (initial testing by 600 concepts, full data testing by 1683 concepts). Two comprehensive service categorization models were additionally used as a general foundation for the proposed categorization: IB service base (Oliva and Kallenberg 2003) and the Process phase service categorization (Partanen and Kohtamäki, 2011).

Table 1 visualizes all the categorizations that were tested or used as a basis for the new classification and the new classification in a systematic way. The table also includes a commentary based on the usability of these models in the construction of the categorization either in the initial testing phase or as a result of implementing the full concept data. Categorizations are analyzed for their usability from the actual industrial practice perspective. Table 1. Industrial service categorizations and their use in this research

Model	Source	Dimensions	Usability and use
Tangibility of service	modified from Sundbo (1999) and Kotler (2003)	Modularized services/ Classical services	Too theoretical for practical use, dropped after initial testing
Logics of service	Heinonen et al. (2010)	Goods-dominant logic/ Service-dominant logic/ Customer-dominant logic	Good but too similar to Service targets – categorization, dropped after initial testing
Perspective of service	modified from Vargo and Lusch (2008)	Provider perspective/ Customer perspective	Too non-specific for practical use, dropped after initial testing
Location of service performance	modified from Brax and Jonsson (2009)	On-site/Remote and on-site/ Remote	Very practical but case specific, tested with the full data
Duration of service	modified from Zeithaml et al. (1985) and Brax and Jonsson (2009)	Short-term/ Long-term	Very practical but problems with borderline cases, tested with the full data
Service combinations	modified from Cova and Salle (2008)	Singular/ Bundle/ Solution	Very practical, tested with the full data
Service target	modified from Turunen and Toivonen (2011)	SSP / SSCP/SSCB/ SSCN	Good usability, tested with the full data, used as a basis for the categorization
The installed base model	modified from Oliva and Kallenberg (2003)	Basic installed base services/ Maintenance services/ Professional services/ Operational services	Good usability, very practical, used as a basis for the categorization
The process phase model	modified from Partanen and Kohtamäki (2011)	Pre-sales/ Sales-phase/ After-sales/ Termination phase	Time - element less usable, sub-categories practical, used as a basis for the categorization
Service categorization	The new proposed model	Customer interface support services/ Operative services/ Improvement services/ Network services	Comprehensive and practical view for managerial use, complements existing models without replacing them

## THE NEW CATEGORIZATION OF INDUSTRIAL SERVICE CONCEPTS

As discussed in the previous chapter, the proposed categorization is based strongly on existing classifications and categorizations of industrial services, but also aims to bring them closer to practice without making it un-applicable across different industries and companies. The four top categories of the categorization are Customer Interface Support Services, Operative Services, Improvement Services, and Network Services (Table 2).

Table 2. Proposed categorization, first two levels

Customer interface support services
Information availability services
Administrative services
Financing services
Sales services
Operative services
Basic operative lifecycle services for the installed base
End of product lifecycle services
Supply management and warehousing
Maintenance services
Improvement services
Research and development services
Knowledge based services
Technical enhancement services
Optimization services
Network services
Project-based customer supplier network services
Long-term relationship based supplier network services
Integrator focused supplier network services
Platform-based network services

The first category, Customer Interface Support Services, is often not considered as traditional industrial services, since they are not specific to the industrial context, but include support functions that are relevant to all businesses, such as administration or sales. These services provide an opportunity for differentiation and affect customer perceived value.

The two middle categories, Operative Services and Improvement Services could be seen as the two traditional industrial services groups. They are related directly to the product or the customer's process. Operative Services revolve around realizing promised operations of product through its entire life-cycle though delivery, installation, inspections, repairs, maintenance, spare parts and eventual end of lifecycle services. Improvement Services, on the other hand, are aimed at developing or improving the products or processes with services including research and development, training, consulting, technology modernizations and optimizations.

The fourth category, Network Services, takes a wider view of the supply

network and consists of services that might include elements of all the other three categories but are very wide in range, such as outsourcing services, service contracts, and project management services. Thus the services in this group should be viewed from a perspective wider than the dyadic relationship between supplier and customer. Due to their range, they affect several actors, by design, or by association.

The categorization is further continued by a third level, that brings the usability of the categorization closer to the actual offering titles of the companies. The overall number of categories, all levels and titles included, is 94. The new categorization as a whole aims to cover all possible services in different process industries, but could to a degree be applied to other types of industries as well. Not all of the sub-categories are present in the offerings of all companies or all industries, but they are services that could be offered, and thus the categorization provides a frame for comparing offerings across companies and industries.

## METHODOLOGY

After a look into theory on industrial service classifications, seven basic logics were tested with part of the data (600 services from three companies). All services were categorized according to each model. Each point of data was thus processed seven times in this phase. After this initial testing, the fit of these categorizations was investigated. How well the categories and categorizations worked as mutually exclusive, what the division between their categories was, how practical they were, and how clear the border cases were, was the key focus of analysis. Three initial categorization models were dropped based on these evaluation criteria.

At this point, a proposal for a novel categorization was brought into play and with that, new observations. The four remaining categories along with two others that were not tested separately formed the base for the construction of the new classification of industrial services. The entire data (1638 services) was tested with the four remaining categories and then transferred to an excel sheet, getting double checked in the process. The 1638 services were thus processed five times (four times handwritten on post-it stickers, and once when transferred to excel format). Iterative testing was simultaneously started with the new categorization, modifying it continuously in the process. During this modification process, the categorization was discussed with academics and practitioners, and their feedback was used to further develop the model.

Finally, semi-structured interviews with a snowball sampling technique were conducted in three of the companies to further test and develop the categorization and the data, to get comments on the descriptions of the offerings and the possible uses of the categorization, and to refine the categorization towards better practical usability. A managerial workshop was arranged to get more insight on the applicability of the categorization.

The chosen focus of research is on the supplier-side and thus no customer-data was gathered. This approach is chosen because the first step in understanding the full scope of offerings is to get all of it structured. All

of the companies are among the largest in their representative industry and provide products and services central to the core business of their customers. The sample size of offerings in these companies varied from 105 services to 455 services per company. The inductive method was used to be able to use both theory and practical data together from a new perspective. The novelty value of the new categorization is strongly based on its validation and application to actual service offerings. Finally, all the 1638 services were unambiguously placed in the categorization frame after it had been revised iteratively while applying the data.

## CONCLUSIONS

In the service sample, most services are placed in the Operative services and Improvement services categories. Network services represent a growing group with the most future growth potential. Customer interface support services are often taken for granted and thus present the smallest group of communicated services, but may deserve growing attention as a potential way to differentiate. The categorization can be used to structure the development of industrial services internally in the supplier organizations. It can be used to compare company offerings within or across industries, and for competitor analyses. From a theory perspective the categorization construction offers three distinct contributions. Firstly, the categorization combines traditional views on industrial service categorizations with the emerging network stream into a single model. Secondly, it links theory closer to industry practice, and thirdly, the new categorization opens the way for a new data-based construction of industrial service categorizations.

## REFERENCES

- Baines, T. S., Lightfoot, H. W., Benedettini, O., Kay, J. M., 2009. The servitization of manufacturing: A review of literature and reflection of future challenges. *Journal of Manufacturing Technology Management*. Vol. 20, Iss: 5, pp. 547-567.
- Boyt, T., Harvey, M., 1997. Classification of industrial services: A model with strategic implications. *Industrial Marketing Management*. Vol. 26, Iss: 4, pp. 291-300.
- Brax, S. and Jonsson, K., 2009. Developing integrated service offerings for remote diagnostics: A comparative case study of two manufacturers. *International Journal of Operations & Production Management*. Vol. 29, Iss: 5, pp. 539-560.
- Clayton, R. J., Backhouse, C. J., Dani, S., 2012. Evaluating existing approaches to product-service system design: A comparison with industrial practice. *Journal of Manufacturing Technology Management*. Vol. 23, Iss: 3, pp. 272-298.
- Cova, B. and Salle, R., 2008. Marketing solutions in accordance with the S-D logic: Co-creating value with customer network actors. *Industrial Marketing Management*. Vol. 37, Iss: 3, pp. 270-277.

Dachs, B., Biege, S., Borowiecki, M., Lay, G., Jäger, A., Schartinger, D., 2012. The servitization of European manufacturing industries. MPRA, Paper No. 38995.

Edgett, S., 1994. The Traits of Successful New Service Development. *Journal of Service Marketing*. Vol. 8, pp. 40-50

Finne, M., 2009. The design of industrial service offerings in indirect channels. Master's Thesis, Industrial Management, Aalto University.

Gebauer, H., Fleisch, E. and Friedli, T., 2005. Overcoming the service paradox in manufacturing companies. *European Management Journal*. Vol. 23, Iss: 1, pp. 14-26.

Gebauer, H., 2009. An attention-based view on service orientation in the business strategy of manufacturing companies. *Journal of Managerial Psychology*. Vol. 24, Iss: 1, pp. 79-98.

Grönroos, C., 1979. An applied theory for marketing industrial services. *Industrial Marketing Management*. Vol. 8, pp. 45-50.

Guiltinan, J. P., 1987. The price bundling of services: A normative framework. *Journal of Marketing*. Vol. 51, pp. 74-85.

Heinonen, K., Strandvik, T., Mickelsson, K-J., Edvardsson, B., Sundström, E., Andersson, P., 2010. A customer-dominant logic of service. *Journal of Service Management*. Vol. 21, Iss: 4, pp. 531-548.

Kindström, D. and Kowalkowski, C., 2009. Development of industrial service offerings: a process framework. *Journal of Service Management*. Vol. 20, Iss: 2, pp. 156-172.

Kindström, D., 2010. Towards a service-based business model – Key aspects for future competitive advantage. *European Management Journal*. Vol. 28, pp. 479-490.

Kohtamäki, M. and Bourlakis, M., 2012. Antecedents of relationship learning in supplier partnerships from the perspective of an industrial customer: the direct effects model. *Journal of Business & Industrial Marketing*. Vol. 27, Iss: 4, pp. 299-310.

Kohtamäki, M., Vesalainen, J., Henneberg, S., Naudé, P. and Ventresca, M. J., 2012. Enabling relationship structures and relationship performance improvement: The moderating role of relational capital. *Industrial Marketing Management*. Vol. 41, Iss: 8, pp. 1298-1309.

Kotler, P., 2003. *Marketing Management*. Prentice Hall, Upper Saddle River, NJ.

Oliva, R. and Kallenberg, R., 2003. Managing the transition from products to services. *International Journal of Service Industry Management*. Vol. 14, Iss: 2, pp. 160 – 172.

Partanen, J. and Kohtamäki, M., 2011. SERVSCOPE - A measurement method for the scope of industrial services. EURAM2011-business conference.

Pawar, K.S., Beltagui, A. and Riedel, J.C.K.H., 2009. The PSO triangle: designing product, service and organization to create value. *International Journal of Operations & Production management*, Vol. 29, Iss: 5, pp. 468-493.

Silvestro, R., Fitzgerald L., Johnston, R. and Voss, C.A., 1992. Towards a classification of service processes. *International Journal of Service Industry Management*, Vol. 3, Iss: 3.

Sundbo, J., 1999. The manual service squeeze. Research report, 99:2, Roskilde University.

Thoben, K-D, Eschenbächer, J. and Jagdev, H., 2001. Extended products: Evolving traditional product concepts. 7th International Conference on Concurrent Enterprising.

Turunen, T. and Toivonen M., 2011. Organizing customer-oriented service business in manufacturing. *Operations Management Research*, Vol. 4, Iss: 1, pp. 74.

Vandermerwe, S. and Rada, J., 1988. Servitization of business: Adding value by adding services. *European Management Journal*, Vol. 6, Iss: 4, pp. 314-324.

Vargo, S. L. and Lusch, R. F., 2008. From goods to service(s): Divergences and convergences of logics. *Industrial Marketing Management*, Vol. 37, pp. 254-259.

Viitamo, E., 2007. Productivity of business services – Towards a new taxonomy. Lappeenranta, Finland, 2007, Research Report 188.

Wilkinson, I.F., Wiley, J.B., and Lin, A., 2000. Modeling the structural dynamics of industrial networks, *InterJournal Complex Systems*, Manuscript number 409.

Zeithaml, V. A., Parasuraman, A., and Berry, L. L., 1985. Problems and strategies in services marketing. *Journal of Marketing*, Vol. 49, Spring, pp. 33-46.

# A SCALE TO ACCESS COMPANY SOCIAL NETWORK MEMBERS' PERCEPTIONS

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## INTRODUCTION

The last decade was characterized by the emergence of social networking sites (SNS), where service providers are now massively creating business pages to which individual SNS users may affiliate, forming what we call in this paper “Company Social Networks” (CSNs). Recent studies suggest that CSNs have huge potential for business. For instance 87% of Facebook users are connected to brands (Lab42, 2012). Therefore, it is essential for companies to know how to manage these CSNs so they become valuable for both the business and their members. More than just creating a page, companies need to know which factors drive participation.

## PREVIOUS STUDY

By means of a qualitative study, Martins and Patrício (2013), identified nine factors that may affect participation, see table 1.

Table 1: Factors of participation in Company Social Networks

Factor	Definition
Feeding adequacy	Balance on the quantity and frequency of content provision (mainly by the host company) in the CSN page. Noticeable presence through regular, but parsimonious feeding.
Informativeness	Relevance and up-to-datedness of content. Content ability to help people on daily life activities (namely purchase decision).
External reward of participation	Likelihood of getting a material (a prize) or non-material return (such as a compliment) as a consequence of active participation.
Internal reward of participation	Likelihood of experiencing positive feelings, such as enjoyment, by actively participating in the CSN activities.
Self-expressiveness	Ability of a product, service or brand to which as CSN is anchored, to communicate something about a person (member of that CSN)
Reputation	Ability of a product, service or brand to which as CSN is anchored to convey a desired self-image and avoid communicating aspects that a person believes others would deem negative.
Openness	Freedom of expression within the CSN. CSN members' permission to post any type of comment or question, either of positive or negative nature.
Responsiveness	Capacity to react timely and appropriately to the CSN members interventions, such as doubts and complaints.

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## SCALE DEVELOPMENT

Based on these findings, the authors built a first version of a survey to access the perceptions of members about CSNs. It contained 44 items presented in Lickert response format with a seven-point scale. This pilot-survey was administered to 218 engineering students. Missing value analysis and further exploratory factor analysis (EFA) enabled the survey reduction to 35 items, organized in six factors (instead of the nine initially identified). The dimensions "feeding adequacy" and "informativeness" collapsed into a unique dimension that we called "content quality". The dimensions "extrinsic reward of active participation" and "intrinsic reward of active participation" collapsed into a new dimension denominated "activity quality". The dimensions "openness" and "responsiveness" got together in a dimension called "communication quality". The remaining dimensions: "reputation", "self-expressiveness" and "thematic consistency" remained as separate dimensions.

After the above presented exploratory stage, the 35 item questionnaire was administered online to the members of a large retailer's CSN. In this stage, before initiating the analyses, the whole sample was randomly split in two parts with equal number of participants (Gerbing & Anderson, 1988): a sample of calibration (n=323) and a sample of validation (n=323). The sample of calibration was subject to EFA. Its results corroborated the results of the exploratory phase, although the loadings of some items in the corresponding factor were not very high. Taking into account the results of EFA, the calibration sample was subject to confirmatory factor analysis. As the measurement model fit was not within the commonly accepted standards, we tried to improve it following existing guidelines (Hair, 2010). Following these procedures, 5 items were eliminated. This solution showed:

(1) Reliability. Inter-item correlations and item-to-total correlations within the same dimension always exceed the minimum recommended of 0,3 and 0,50, respectively. The coefficient alpha and construct reliability values for all dimensions exceed the minimum standard of 0,7, suggesting internal consistency of the measures; (2) Convergent validity. The loadings generated are all high and significant ( $p < 0,01$ ). Only two loadings are below the minimum recommended of 0,7 and both are equal or above 0,68. Average variance extracted (AVE) for the six dimensions exceed commonly cited standard of 0,8. These results offer support for the existence of convergent validity; (3) Discriminant validity. For assessing discriminant validity the AVEs of every two constructs, were compared to their shared variance (square of the correlation between them). In all the cases, as required (Fornell & Larcker, 1981), AVEs were greater than the shared variance estimate; (4) Nomological Validity. It is said that a measure has nomological validity when it behaves as theoretically expected. It is expected that the six kinds of perceptions about CSNs are related with constructs concerning attitudes and behaviors towards CSNs, such as satisfaction with CSNs, loyalty intentions towards CSNs, identification and commitment to the CSN community. It is also expected that it relates with satisfaction and loyalty intentions towards the company to which the

CSN is anchored. Therefore, to determine the extent to which each scale dimension relate with each of those constructs, we run six separate SEM models. In each model the six kinds of perceptions about CSNs were the exogenous variables and each of those constructs, one at a time, served as endogenous variables.

## CONCLUSION

The development of an instrument to access members' perceptions about CSNs may be very useful to service providers that want to create value through CSNs. Such instrument not only can access what are the strongest and weakest aspects of their CSNs but also understand which factors are more important to participation. With this knowledge, service providers may better define their online strategies.

## REFERENCES

Fornell, C., and Larcker, D. F. (1981). Evaluating structural equation models with unobservable variables and measurement error. *Journal of Marketing Research*, 18(1), 39-50.

Hair, J., Black, B., Babin, B., Anderson, R., & Tatham, R. (2010). *Multi variate Data Analysis (7th Edition)*: Prentice Hall.

Lab42 (2012). Like us. Chicago. Available at: <http://lab42.com/infographics/like-us> Martins and Patrício (in press). Understanding participation in Company Social Networks.

# A SERVICE INNOVATION FRAMEWORK FOR MANUFACTURING FIRMS

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## ABSTRACT

Service innovation is becoming a competitive advantage of manufacturing firms. However, many service innovations do not have their origin in a formal new service development process. A framework for service innovation is suggested that captures the actual development activities of services through the concepts of service innovation modes, practice-driven innovation, new service development, and service platforms. The framework contains several components with different degrees of support, extending service innovation beyond the new service development process. A single case study shows several service innovation paths for new services to reach customers.

## INTRODUCTION

Manufacturing firms often have a strategy of introducing services to utilise the entire life-cycle of the installed base, hence increasing profits. Along with this strategy many manufacturing firms increase their focus on services and in particular advanced services (Oliva and Kallenberg 2003). An ability to develop and introduce new services is thus critical. However, new service development (NSD) has been identified as a barrier for manufacturing firms and something that is often performed in an unsystematic manner (Gebauer 2007). Although NSD processes do exist in manufacturing firms empirical research show that service innovations often do not have their origin in these processes (Gremyr et al. 2010).

One explanation for the limited use of NSD processes in manufacturing firms is that these often are adaptations of the new product development (NPD) process. But, could it be that a service innovation framework needs to include other organisational arrangements than a NSD process? What is the role of practice-based innovation (Toivonen and Tuominen 2009) and the service platform (Chesbrough 2011) for manufacturing firms? Gallouj and Weinstein (1997) argue that there is no universal innovation process for services. Rather a service innovation will pass through a number of innovation modes; innovation modes representing a specific type of change in the service characteristics. So the question is; how should a manufacturing firm organise NSD to support varying trajectories of innovation modes?

The purpose of the research is to describe and discuss the role of practice-based innovation, NSD, and service platforms as a service innovation framework for manufacturing firms. Based on a single case study at a large manufacturing firm, this paper elaborates on the need for a service innovation framework that supports several service innovation paths. To show the dynamics of the service innovation framework, different service

innovation paths in the case firm are exemplified.

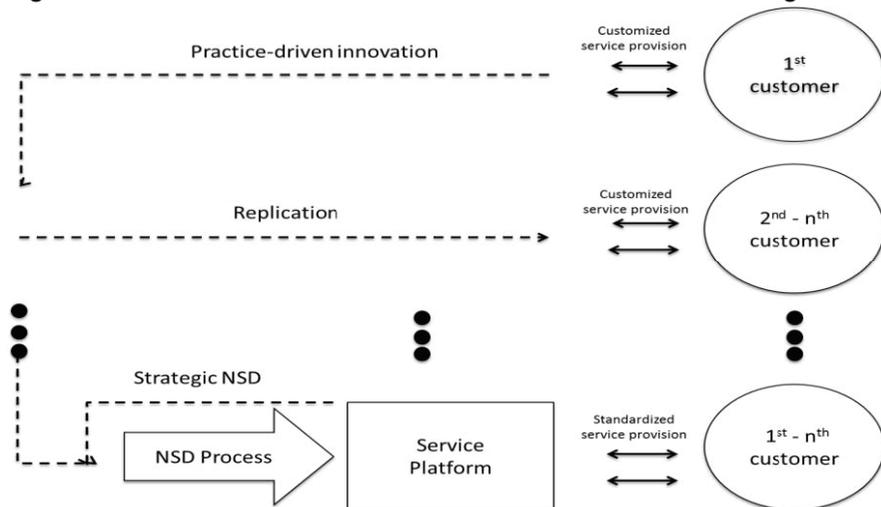
## A FRAMEWORK FOR SERVICE INNOVATION IN MANUFACTURING FIRMS

In a recent literature review, Carlborg et al. (2013) identified that research on service innovation emphasises its role and linkages to business strategy. For manufacturing firms that infuse services, Kindström (2010) suggests a reconsideration of their innovation setup, toward an integrated approach for product and service innovation activities. In the present paper, the authors suggest that product and service innovation need to be better coordinated, but first manufacturing firms need to identify a framework that captures the nature of service innovation.

Toivonen and Tuominen (2009) suggest three models of service innovation in manufacturing firms; (1) the R&D model, (2) the model of rapid application and (3) the practice-driven model. The R&D model is similar to development projects that use a NSD process (similar to NPD). Rapid application is a development process that brings a new service to the market very quickly. If successful, the R&D model can be used to formalise the service and put it on the market. In the practice-driven model, the service is developed together with a customer in an on-going customer relationship.

The paper builds a framework (as illustrated in Figure 1) for service innovation in manufacturing firms based on three theoretical concepts: practice-driven innovation, new service development, and service platforms. The framework suggests that a manufacturing firm should consider customisation in service provision as opportunities for practice-driven innovation and that it can be linked to replication and the NSD process. In addition, we use innovation modes (Gallouj and Weinstein 1997) to explain how different service innovation paths support different trajectories of new services.

Figure 1: A framework for service innovation in manufacturing firms



## Modes of service innovation

Gallouj and Weinstein (1997) conceptualise service innovation based on a Lancasterian characteristic-based approach of services. The characteristics are the provider's direct competences, clients' competences, material and immaterial technical characteristics, and final users' service characteristics (Gallouj and Weinstein 1997). There are six modes of innovation: radical, improvement, incremental, ad hoc, recombinative, and formalisation innovation. Over a life-cycle, a service innovation can pass different trajectories of modes in its development.

Radical innovation means that the set of underlying characteristics is changed, whereas for improvement innovation only the quality of some elements is increased. An incremental innovation is characterised by addition, elimination or substitution of a new characteristic. Recombinative innovations can be a combination of characteristics of two or more services, or a fragmentation of the characteristics of a pre-existing service (Gallouj and Savona 2009). Formalisation innovation can be described as adding a certain degree of standardisation to the service provided. In response to a client problem there are innovations arising that implies change in the providers competence and the characteristics of the service, these are referred to as ad hoc innovations.

## Practice-driven innovation

Practice-driven innovation means that a service is co-created in an ongoing customer relationship (Toivonen and Tuominen 2009). The basis for such innovations are that they come from a customised service aimed to solve a specific customer problem. Each customer is its own primary resource integrator, applying its uniquely configured skills and resources to solve the problem together with the service provider.

Co-creation for use is performed by a specific customer for his or her own benefit, while co-creation for others aims to provide an idea, share knowledge or participate in the development of a product or service that can be of value for other customers (Witell et al. 2011). Practice-driven innovation is based on the assumption that there will be solutions to the specific customer problem that are of interest to other customers, i.e. co-creation for use can in certain cases be used a co-creation for others. Toivonen and Tuominen (2009) suggest that when the value of a specific solution has been identified, its further development may be done in a NSD-process, or it can be replication in other customer relationships.

## New service development

Kindström and Kowalkowski (2009) suggest a framework where the NSD process extends existing frameworks for service. Their NSD-model includes market sensing, development, sales, and delivery, suggesting that service provision is a part of service innovation. Gustafsson and Johnson (2003) provide a framework consisting of three development processes (service maintenance, improving service performance and service innovation), arguing that firms need several development processes and that services

over their lifecycle need to pass through all these processes.

Fischer et al. (2009) also points to the need of different development processes on the assumption that a specific service strategy needs specific support for service innovation. When a manufacturing firm changes service strategy, the development process must change (ibid.). Fischer et al. (2009) suggest that a framework for service innovation is dependent on responsibilities of service innovation, division into phases of the development process, contextual adaption and who should be involved when in the development process. Customer involvement is suggested by Santamaria et al. (2012) as a key for developing service innovations in manufacturing firms, in particular to provide ideas for new services. They further suggest that employee training and the use of advanced technology have a positive impact on service innovation. In addition, Bettencourt and Brown (2013) suggest that an innovation team is needed to develop service innovations that have high customer value.

### Service platforms

For many manufacturing firms, the installed base becomes the platform for services (Oliva and Kallenberg 2003). Bettencourt and Brown (2013) further explains that a product on its own often fails to address what the customer needs the product to do, but when a product partners with a service, its capabilities are extended in a way that helps the customer to get the job done.

Following the successful examples of Amazon and Apple, manufacturing firms use technology to build a platform for service provision. Chesbrough (2011) suggest a platform business model where external firms can invest in business activities that enhance the value of the platform. Although most manufacturing firms do not use open platforms, the idea of service platforms where the range of services is displayed is spreading to manufacturing firms. Lay et al. (2010) show that having a wider service range have a positive relationship to the share of turnover coming from services.

Pekkarinen and Ulkuniemi (2008) suggest that a service platform can be built on four dimensions of modularity; i.e. service, process, organisational and customer interface. These are built on the service provider's core knowledge and technology. By combining service modules the service provider can offer services meeting different customer needs. The service platform is a key in moving from customised services to a higher efficiency through standardisation of services, which also influence customer satisfaction.

### METHOD

In order to gain in-depth knowledge about service innovation in manufacturing firms, a case study approach was chosen (Eisenhardt 1989). This research strategy is suitable for understanding the dynamics present within a single firm (Eisenhardt 1989). Working on a detailed understanding of a specific case is a key to a conceptual contribution (Siggelkow 2007).

This paper is based on a single case study of an anonymous manufacturing firm referred to as Alpha. The study focuses on ways of organising service innovation and service provision. The empirical investigation is based on studies of archival records and eleven in-depth interviews with originators of innovations, service development personnel, sales managers, service platform managers and customers. The interviews were recorded, transcribed and analysed by the authors.

## FINDINGS

The empirical findings on service innovation in Alpha are presented following the suggested framework for service innovation (Figure 1).

### Practice-driven service innovation

When salesmen from Alpha meet a customer that has a specific problem it can be solved through a solution, a product or a service: "I think the key is that our base is not [our product] but to solve problems, and how you do it – that is not so [important]". New services developed in a customer relationship can be (a) a customised new offering or (b) a customised combination of existing offerings.

Exemplifying by a new education service; a customer has a problem with maintenance of one of the firm's products. In the particular case, lack of knowledge is identified as the main problem and "then we have to design a course, [...] the teacher interviews the customer: what are your goals? What do you want your employees to be able to do?". Based on this input a new course is offered to the customer.

Regarding a combination of existing offerings, a customer encounter problems with a machine and the service engineer performs a lubrication analysis. Realising that this is not enough to solve the problem, the engineer "try to put this alignment, [...] you try to combine and solve the problem, and when you are able to show that you can do more by integrating different skills and products in to one package, then you can use that as a kind of leverage to offer a more integrated thing". A new bundle of product and service is hence created as a response to a customer's problem.

These examples concern customised services for an individual customer. The specific solution can then be replicated in other customer relationships. "you use it [the new service] as an example and you bring [other] customers in, and you show that you're running and you have this system [...] and you can have them to talk to these customers [...] to get the first one is the most difficult part". Replication of customised services can appear on an individual level by a specific salesman or service engineer, or at an organisational level.

### New service development

At Alpha, product and service development share a joint development process. The view is that it is "an advantage to have it [the development

process] in common because it is still something that you're taking to the market, you have to start in a customer need. [...] you still have to work in line with your strategy, it cannot be something else we should do – so it has a value to keep it together and it is still one portfolio to take to the customer.” The development process that products and services have in common, the so-called New Offering Process (NOP), is on a fairly general level containing five phases with intermediate gates.

The NOP is connected to a very detailed NPD process, while the NSD process has very little detail. Thus for NSD, the NOP is not perceived as supportive, rather it is seen as too product focused and slow compared to the speed needed for service innovations developed in response to a customer's problem. In practice, service innovations are often developed in response to one, or several, customer's needs. Later it is run through the NSD process with essentially no activities except passing the gates to gain political acceptance and resources for marketing and sales.

A service on the assessment of the environmental impact of products can serve as an example on a service innovation developed in a structured way. Similar assessments were performed in Alpha's own production processes and the service business was encouraged to take this knowledge to customers; “there is like a central idea that we need to take into account sustainability and environment in to our offerings [...] let's take one of these offers and try to use some methodology to try to show the customer what is going to be the impact on the environment if they use this”. A team of five people with complementary competences was assigned to develop the idea following a structured process.

### Service platform

Within the firm there is a service platform, offering a set of services that can be marketed to customers. The services are standardised, but can be combined into solutions for individual customers. The service platform is described through word such as integration, standardisation and replication. The service platform is “an interface to solve this type of [customer] problem and it is a kind of a one-stop shop if you need to buy services [...] with resources to offer all aspects of an integrated service offering”. To have a central unit for standardisation of services is a means to ensure a “consistent offer for specialised services while also tailor make things [and to] deliver an even and equal quality”. Customisation based on the service platform concerns bundling services and products to a specific customer.

Internally the service platform is a way to support communication about offerings, i.e. facilitating co-operation between product and service functions when offering integrated solutions. The combination of a product and service is common, but “one can imagine just buying a service, but chances are you end up with a product as well”.

## DISCUSSION

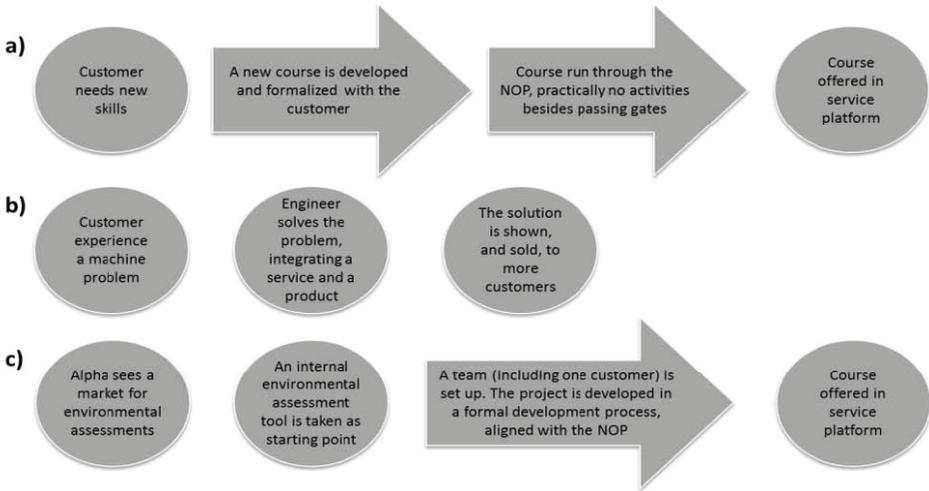
At Alpha several service innovations were identified that followed different paths from idea to a service provided to customers. Figure 2 elaborates on three service innovation paths, exemplified through one educational service, one bundled service, and one environmental assessment tool.

The educational service followed a practice-driven innovation path (Toivonen and Tuominen 2009). The co-created course by the customer and the teacher ended up in a formal course. This service went through an ad-hoc innovation mode as well as a formalisation mode (Gallouj and Weinstein 1997) already during the first customised service provision. Later, the course passed the NOP, although the development had already taken place this was needed to be included in the service platform and attain resources for marketing and sales.

For the bundled service, practice-driven innovation took place as a response to a problem with a machine at a customer site. The service engineer performed an already existing lubrication analysis (a service) and realised that this was not enough to solve the problem. The service was then bundled with a product. Thus a re-combinative innovation mode (Gallouj and Weinstein 1997) occurred and the solution was later replicated to other customers, through a formalisation mode (Gallouj and Weinstein 1997), but not supported by a formal development process.

The environmental assessment tool followed a strategic service innovation path where its introduction should position Alpha as active in decreasing the environmental impact of customers. A similar tool was already used internally in Alpha's own production process, suggesting that Alpha use an intra-service strategy. The intra-service tool was taken as the basis for a new service offered to customers and a project team (along with a customer) was assigned to develop the service through the NOP. The service can be seen as an improvement innovation based on an already existing internal service. Incremental and formalisation innovation modes occurred to include it in the service platform.

Figure 2: Development of three services at Alpha: a) educational service, b) bundle of a service and a product, and c) environmental assessment tool.



## CONCLUSIONS

The present paper contributes to research on new service development in manufacturing firms (Kindström and Kowalkowski 2009; Fischer et al. 2010; Gebauer 2007). Several frameworks exist, but these are often limited to the activities in the NSD process and do not support service innovation in on-going customer relationships. The limitations of existing NSD frameworks are shown through elaborations on alternative service innovation paths.

Through a single case study at Alpha we show that there are several service innovation paths for services to reach customers. The framework of service innovation is based on the need for a manufacturing firm to support several trajectories of innovation modes and not force the development of adhoc or recombinative innovations into a process intended for improvement or incremental innovation. Providing several organisational arrangements, with different degrees of support for service innovation, is assumed to result in more and better services in manufacturing firms.

## REFERENCES

- Bettencourt, L. and Brown, S. (2013), "From goods to great: Service innovation in a product-dominant firm", *Business Horizons*, in press, <http://dx.doi.org/10.1016/j.bushor.2013.01.008>
- Carlborg, P., Kindström, D. and Kowalkowski, C. (2013), "The evolution of service innovation research: a critical review and synthesis", *Service Industries Journal*, In press
- Chesbrough, H. (2011), *Open Services Innovation*, Jossey-Bass, San Francisco, CA

Eisenhardt, K.E. (1989), "Building theories from case study research", *Academy of Management Review*, 14 (4) 532–550

Fischer, T., Gebauer, H., Gustafsson, A., and Witell, L. (2009), "Managerial recommendations for service innovations in different productservice systems," in Sakao, T. and Lindahl, M. (Eds.), *Introduction to Product-Service Systems*, Springer, London, pp. 237-258

Gallouj, F. and Weinstein, O. (1997), "Innovation in services," *Research Policy*, 26 (4-5) 537-556

Gallouj, F. and Savona, M. (2009), "Innovation in services: A review of the debate and a research agenda," *Journal of Evolutionary Economics*, 19 (2) 149-172

Gebauer, H. (2007), "An investigation of antecedents for the development of customer support services in manufacturing firms," *Journal of Business-to-Business Marketing*, 14 (3) 59-96

Gremyr, I., Löfberg, N., and Witell, L. (2010), "Service innovations in manufacturing firms," *Managing Service Quality*, 20 (2) 161-175

Gustafsson, A. and Johnson, M.D. (2003), *Competing in a Service Economy: How to Create a Competitive Advantage through Service Development and Innovation*, John Wiley & Sons, San Francisco, CA

Kindström, D. (2010), "Towards a service-based business model – Key aspects for future competitive advantage", *European Management Journal*, 28 (6) 479–490

Kindström, D. and Kowalkowski, C. (2009), "Development of industrial service offerings: A process framework," *Journal of Service Management*, 2 (2) 156-172

Oliva, R. and Kallenberg, R. (2003), "Managing the transition from products to services," *International Journal of Service Industry Management*, 14 (2) 160-172

Pekkarinen, S. and Ulkuniemi, P. (2008), "Modularity in developing business services by platform approach", *The International Journal of Logistics Management*, 19 (1) 84-103

Santamaría, L., Jesús Nieto, M. And Miles, I. (2012), "Service innovation in manufacturing firms: Evidence from Spain", *Technovation*, 32 (2) 144-155

Siggelkow, N. (2007), "Persuasion with case studies," *Academy of Management Journal*, 50 (1) 20-24

Toivonen, M. and Tuominen, T. (2009), "Emergence of innovations in services," *Service Industries Journal*, 29 (7) 887-902

Witell, L., Kristensson, P., Gustafsson, A., and Löfgren, M. (2011), "Idea generation: customer co-creation versus traditional market research techniques", *Journal of Service Management*, 22 (2) 140-159

# **A SYSTEM DYNAMICS MODEL OF VALUE CREATION THROUGH DEVELOPMENT OF PRODUCTS AND SERVICES WITHIN A PRODUCT-SERVICE SYSTEM**

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## **ABSTRACT**

This study presents a framework for understanding the value creation process in a Product-Service System (PSS). We build on contemporary thinking in service logic which suggests that value creation is a customer-oriented process. We design a model which simulates interactions between a company's product and service lifecycle and its customers. The unit of measurement for such interactions is information quality, which not only describes the accuracy and completeness of information gathered from customer interactions, but also the use of this information within the company. We demonstrate the validity of our model using a case study on a PSS of a large telecom organization.

## **INTRODUCTION**

Driven by consumption of data from mobile devices, the mobile telecom business is on a transformation path since the second half of the previous decade. The emergence of mobile devices having the computational capacity to support a wide range of applications, together with fast, inexpensive and ubiquitous internet connectivity, has created a new market for software providers that are now able to reach a consumer base of billions of customers.

Concurrently, mobile network vendors report reduced profit margins due to commoditization of network equipment and the emergence of new competitors from the Information Technology (IT) industry. A recent study shows that in order to survive this business transformation, mobile network vendors will have to assume the role of service vendors instead of technology vendors (Enqvist and Casey 2010). The Product Service System (PSS), a sustainable product and service production, integration and delivery model to facilitate transition from mass production of products and services to flexible production of solutions, is perceived as an enabler for this transformation (in this paper, we regard solutions as integrations of products and services towards serving customer needs)(Mont 2002).

In previous work, we have identified that Ericsson is on a transition path towards a PSS and that services account for approximately 40% of the company's revenue (Elfving and Urquhart 2012). The growth of the service business is not the sole indicator of PSS transformation however. In their model capturing the areas of change in the transformation towards a PSS, Vladimirova et al stress the importance of evaluating solutions and communicating their value within in the organization, but also to customers

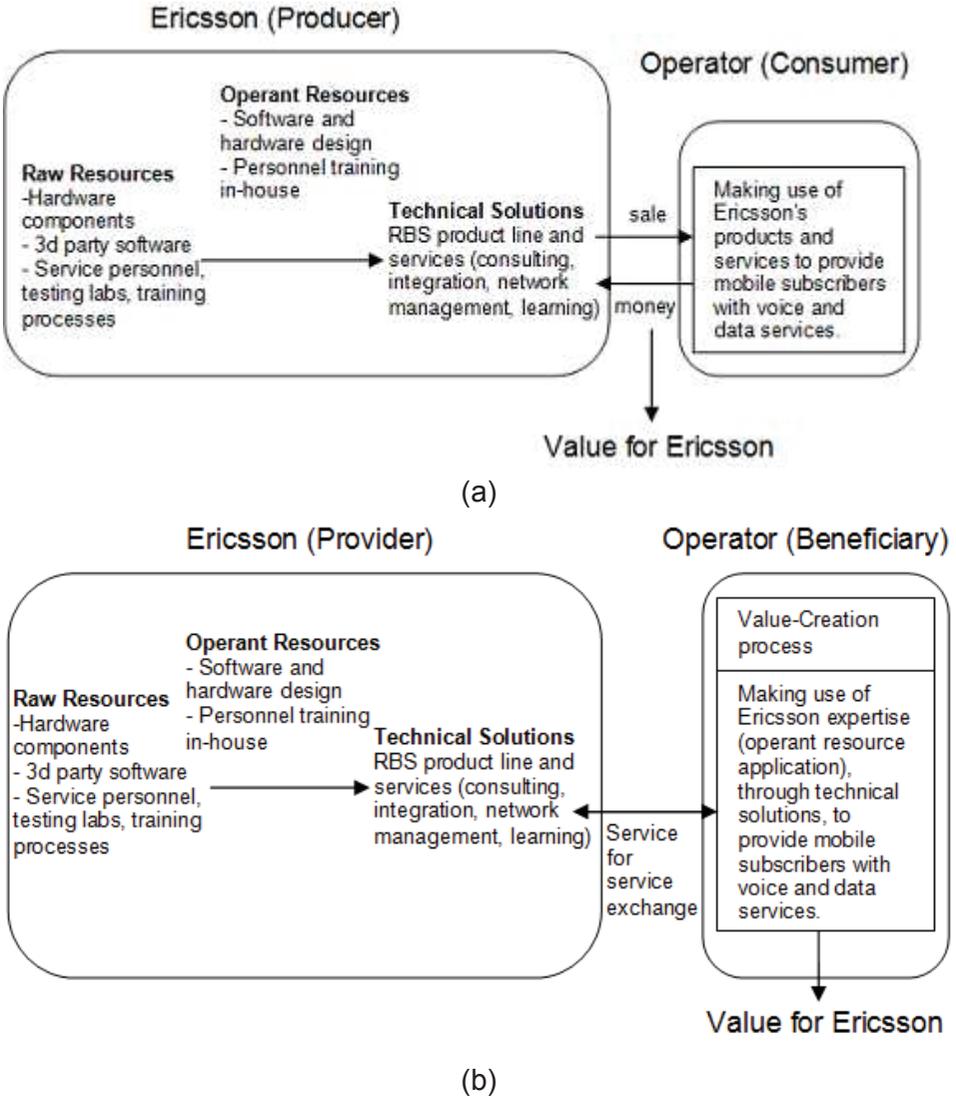
(Vladimirova et al 2011). Understanding the value creation process and communicating it clearly is integral to a successful transition to PSS. In this study, we design a model to capture value creation in a company on a transition path to PSS. Although we use Ericsson (and the telecom industry at large) as a case study, the findings presented here are applicable to companies undergoing similar transformations.

## IDENTIFYING AND QUANTIFYING VALUE IN PSS

Accounting methods for measuring profit, such as return on investments (ROI), the payback method and the rate of return, focus on transactions with customers but cannot keep track of intangible aspects of value, such as customer trust, customer experience and perception of the brand name. Although such approaches have worked well in the stable and growing telecom markets of the 1980s and 1990s, they cannot cope with the transformation happening in the contemporary telecom industry, which forces rethinking of who creates value in telecoms, what is the nature of this value and how it is possible to benefit from it.

Contemporary research in service logic considers customers as the major contributor to value creation. Vargo and Lush have introduced Service- Dominant (S-D) logic, a mindset which supports the idea of service exchange over exchange of goods, where value is co-created by the company and its customers in-use (Vargo and Lush 2004). S-D logic does not necessarily distinguish between companies (providers) and customers (consumers), but instead views every entity capable of exchanging services, as a service system, capable of internally applying skills, knowledge and capabilities to transform a raw material (tangible, for example circuit boards or intangible, for instance software) to solutions that are exchanged with other service systems (Vargo and Maglio 2008). Figure 1 shows an example of two interoperating service systems, a mobile network vendor (Ericsson) and a customer (operator), exchanging a Radio Base Station (RBS) solution. RBSs are bought from and used by telecom operators to provide voice and data services to mobile subscribers. They are typically not sold as standalone products, but are bundled together with services.

Figure 1: Value creation for an Ericsson-supplied RBS solution from G-D logic (a) and S-D logic (b) perspective.



Notice the shift of value creation from the exchange of goods in the traditional Goods-Dominant (G-D) logic (figure 1a) to the value creation in-use from the beneficiary (customer) in S-D logic (figure 1b). Ericsson can also create value in-use for other service systems, for example, consultant companies and hardware suppliers. Similarly, operators are concurrently beneficiaries and providers of telecom services to end-users. In this example we focus on investigating the value created for Ericsson and therefore we do not examine relations with other service systems. Other researchers have openly criticised value co-creation which according to them occurs only under certain circumstances – in most cases the customer is the only creator of value (Grönroos 2011a).

Although there is no consensus among researchers on whether customers are the sole creators, or co-creators of value, their leading role in value creation is undisputed.

## MODEL DESIGN APPROACH

In the transition of a company towards a PSS, information gained from interactions with customers plays a pivotal role in enhancing this company's participation in the customer's value creation process: from understanding the needs of the customers when designing new solutions, through customer feedback during solution development, to customer feedback during use of these solutions. Piller and Möslin describe how customer information enables planning for the mass customization of products and services into solutions (Piller and Möslin 2002). Grönroos also views customer interactions as an enabler for companies to extend market offerings to customers by being commonly engaged with them in product and service development activities (Grönroos 2011b).

In order to identify the work areas interacting with customers in a company, we use Hartman's model of value, one of the first to identify value's multiple dimensions (Hartman 1967). In this model, intrinsic (emotional), extrinsic (functional) and systemic (logical) dimensions of value are described as different interpretations of reality. A later study suggests the dimension of context (Chandler and Vargo 2011). Table 1 shows the work areas we identified in Ericsson that are able to capture the aforementioned dimensions of value.

Table 1: Understanding of customer value in-use: relating aspects of customer-created value to information and work areas able to capture it.

Dimension of value	Information nature	Work Area
Extrinsic (functional value)	Pricing	Product Management and Product Owners
	Quality	
	Competence	Service Management and Service Owners
	Ease of use	
Intrinsic (emotional value)	Professionalism	Brand Managers
	Trust	
Systemic (logical value)	Brand Equity	Technical Support (Service) Data Analytics Managers
	Performance	
Contextual value	Fault lead-time	Business Intelligence
	Market Relevance	

In order to understand more about the interactions with customers and the nature of the information retrieved from customers, we used the work areas identified in table 1, to identify 24 managers to interview. The interviews were conducted within a period of four months. During the interviews, we used the appreciative inquiry method by asking the interviewees to discuss any positive experiences they had when interacting with customers and subsequently building a discussion around these experiences. The

discussions led to the creation of a knowledge base on the nature and use of customer information in Ericsson.

To structure the data in the knowledge base, we use the information quality (IQ) theory. IQ indicates the “fitness for use” of a company’s offerings from consumers. In other words, IQ shows the extent to which a solution fulfills customer needs (Kahn et al 2002). After our interviews ended, we analyzed the results and classified them into four general categories we call “dimensions” of IQ. Each of these four categories represents a different aspect of IQ (see table 2, first column).

Subsequently, we created a list of attributes for each of the dimensions. The attributes are characteristics of information people can identify and relate to. For example, the “Update Frequency” attribute relates to how frequently the information is updated and the “Timeliness” relates to whether the information is delivered on time (see table 2).

Table 2: Information dimensions and attributes.

Information Dimension	Attributes (symbol)
Reliable Information: Can the information be accessed easily, on-time?	Ease of Access Timeliness Update Frequency
Comprehensive Information: Is the information easy to understand, is it of value?	Accessible Understandable Relevant
Reusable Information: Can the information be reused from other parts of the company?	Customizable Proper Format Support from IT
Cohesive Information: Is the information sound?	Complete Correct Consistent

A conclusion drawn from these interviews was that even though the aforementioned attributes are used to characterize interactions with customers they are not of equal importance. Additionally, leaders from different work areas had different perception of what these attributes meant for them. In order to determine which attributes are of greater value, as well as what their meaning is in context of different work areas, we followed up with an electronic survey. Using the 24 interviewees of the first round of interviews as a starting point, we asked them to rank the attributes shown in table 2 in order of preference and forward the survey to other individuals who would also be eligible for this survey. The respondents compared two attributes while having the option to suggest their own attributes and compare them. This process lasted for two months and we collected 65 responses. Subsequently, we used the “Analytic Hierarchy Process” to analyze the results by ranking the attributes in order of preference for every work area, using eigenvector analysis (Saaty 2008). Table 3 shows the results of our analysis.

Table 3: Ranking of importance of information attributes to stakeholders per work area. The value per attribute is the mean of the ranking per work area and in parenthesis is the standard deviation of this ranking. The results are normalized on a scale of one to twelve, one indicating lowest importance and twelve the highest.

	Product Management	Service Management	Business Intelligence	Data Analytics	Brand Man.
Participants	20	23	10	8	4
Attributes: mean ranking value, from 1 to 12 (standard deviation)					
Ease of access	10.5(2.3)	3.9(1.9)	4.8(1.5)	8.9(0.4)	6.7(0.5)
Timeliness	2.4(1.2)	3.2(2.7)	5.3(2.7)	6.1(0.4)	4.3(0.5)
Update frequency	5.9(1)	9.7(3.2)	8.4(1.6)	5.1(2.2)	9.3(0.5)
Accessibility	8.5(1.3)	6.1(1.4)	6.4(1.6)	10.1(2.1)	1.3(0.5)
Understandability	11.2(2.3)	8.9(0.9)	2.8(0.6)	1.1(0.4)	11(0)
Relevancy	5.1(1)	4.6(1.8)	11.3(1.3)	9.4(1.4)	7.7(0.5)
Customizability	2.1(3.1)	2.6(3.4)	2.3(3.5)	4.9(0.4)	9.7(0.5)
Proper Format	6.7(1.1)	8.6(2.9)	9.4(3)	7.2(1.8)	6.7(1)
IT Support	4.7(2.2)	4.9(1.4)	6.7(0.9)	2.7(0.7)	4.3(1)
Completeness	7.9(0.7)	10.6(2.8)	7.2(1.6)	11.5(1)	3.3(0.5)
Correctness	9.6(1.2)	7.2(1.6)	3.8(3.4)	7.8(1.4)	1.7(0.5)
Consistency	3.4(1.7)	7.5(2.3)	9.4(1.6)	3.1(2.8)	12(0)

In order to understand how information attributes are perceived from different work areas we also included two questions in the survey for participants to identify the information custodian for each attribute and whether the custodian identified fulfils their expectations or not. Information custodians are either tools or people responsible for capturing, storing and communicating customer information. Every work area has a uniform way of interacting with customers. Brand management uses questionnaires to evaluate the brand equity. Product management relies on feedback through customer conversations during product delivery. Service feedback on customer experience is given from the customers to service engineers on the field. The data analytics group works with information retrieved from systems installed in customers' networks that monitor the use of mobile traffic. Finally, business intelligence monitors and predicts customer purchasing patterns, and uses market data to identify potential customers. The last question in our survey was asking whether the information retrieved from customers was adequate. For reasons of simplicity and time constrains in subsequent analysis of the results, we have asked the participants to choose between two options; being satisfied or not (see table 4).

Table 4: This table illustrating the satisfaction on the information retrieved from customers for every attribute per work area, normalized from 0 to 1.

	Product Management	Service Management	Business Intelligence	Data Analytics	Brand Man.
Participants	20	23	10	8	4
Expectations, 1 indicating complete satisfaction and 0 no satisfaction (only able to choose 1 or 0)					
Ease of access	0.05	0.9	0.22	1	1
Timeliness	1	0.23	0.9	0.57	0.33
Update frequency	0.84	0.81	0.22	0.14	1
Accessibility	0.84	0.09	0.11	0.14	1
Understandability	0.84	0.86	0.78	0.9	1
Relevancy	0.84	0.86	0.89	0.71	0.5
Customizability	0.1	0.22	0.89	0.29	0.5
Proper Format	0.89	0.86	0.78	0.42	1
IT Support	0.84	0.05	0.11	0.71	1
Completeness	0.22	0.09	0.89	0.85	1
Correctness	0.73	0.86	0.78	0.85	0.33
Consistency	0.16	0.19	0.89	0.51	1

Using information from tables 3 and 4 we can calculate the Information Quality (IQ) index per work area. Given  $S = \{s1, s2, s3, s4, s5\}$  the IQ indexes for the five work areas monitored (see tables 3 and 4),  $W_x = \{wx(1), wx(2), \dots, wx(12)\}$  the normalized ranking value for the information attributes (see table 3) and  $E_x = \{ex(1), ex(2), \dots, ex(12)\}$  the information attribute satisfaction value (see table 4), then:

$$\forall S_x \in S, \exists W_x, E_x \text{ such that } S_x = \frac{\sum_{i=1}^{12} \left( \frac{W_{x(i)}}{12} \cdot e_{x(i)} \right)}{12}, S_x \in [0,1]$$

The optimal IQ index is calculated by assigning all  $ex(i)$  to value 1, indicating that ideally, all stakeholders would be fully content with the quality of information exchanged. The actual IQ index is calculated by assigning all  $ex(i)$  to values from table 4. The fraction of the actual IQ by the optimal IQ, or IQ Effectiveness, indicates the effectiveness of current methods for gathering customer information.

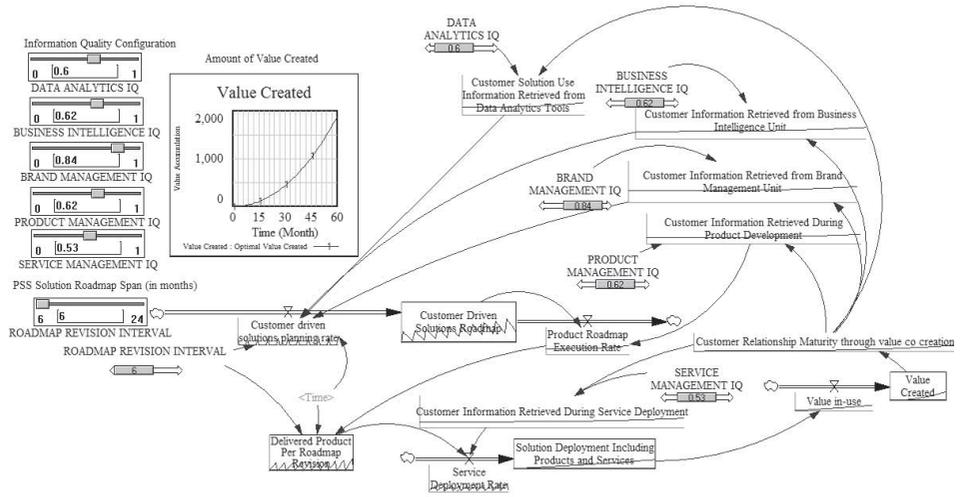
Table 5: Calculated optimal IQ index, actual IQ index and IQ efficiency.

	Product Management	Service Management	Business Intelligence	Data Analytics	Brand Man.
Optimal IQ	0.54	0.54	0.54	0.54	0.54
Actual IQ	0.33	0.29	0.38	0.32	0.45
I Q Effectiveness	0.62 (62%)	0.53 (53%)	0.62 (62%)	0.6 (60%)	0.84 (84%)

### SD MODEL AND SIMULATED SCENARIOS

Figure 3 illustrates the model we designed using System Dynamics (SD), to capture the value creation process in a PSS using stocks and flows.

Figure 3: System Dynamics model of value creation during a simulation



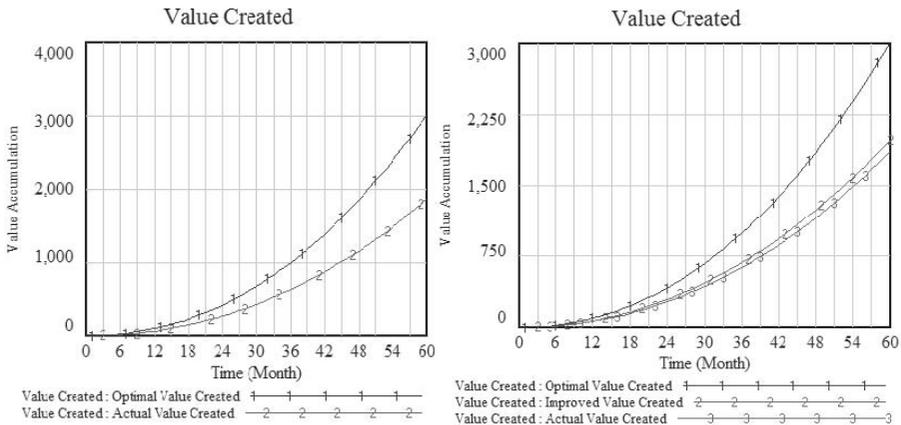
The process starts from the creation of a solution roadmap, detailing the solution to be implemented. The flow variable “Customer-driven solutions planning rate” models the functionality planned in the solution roadmap, which is accumulated into the “Customer Driven Solution Roadmap” stock variable. The rate of accumulation is influenced by customer information from Business Intelligence, Brand Management and Data Analytics. The roadmap is revised after a period of time has elapsed – set from the “Roadmap Revision Interval” variable.

Also notice other capitalized variables which contain fixed IQ and are the major drivers in embedding future customer value in the roadmap, in addition to the customer use of the solution. All the capitalized variables are parameters to the model set prior to the simulation, using the sliders in the upper left corner. As soon as the product roadmap is complete, implementation of the product starts (services are delivered after a version

of the product is available). In Ericsson, iterative product development models are starting to emerge (for example Agile SCRUM), which give customers the opportunity to provide feedback at the end of every iteration, thus affecting implementation in subsequent iterations. As mentioned in the previous section, customers also provide feedback on service delivery. Finally, through a deployment service, the solution is provided to customers who create value in-use (modelled using the through “Value in-use” flow variable and accumulated at the “Value Created” stock variable).

Our first simulation compares the actual value created and the optimal value (figure 4a). The amounts of value shown in the vertical axis are meant to be interpreted relatively rather than literally: at the end of the solution lifetime (set to 60 months in this simulation) the value created using the actual information received from customers was approximately 62 per cent of the optimal scenario, indicating that some tools or human contacts used to retrieve customer information could be improved.

Figure 4: Model simulations on actual (a) and improved (b) value creation.



To find the areas with the greatest impact, we choose the information attributes ranked as the most important (see table 3) but have a low satisfaction rating (see table 4), for example, “Ease of Access” from Product Management work area and “Consistency” from Service Management. We set these two attributes to a satisfaction of 1, and run a new simulation (see figure 4b). Results show an increase of 5 per cent of value created in the “improved value creation” scenario against the scenario with the actual data (and a raise of 3 percentage points, to 65 per cent against the optimal scenario). A subsequent step would be to get in touch with stakeholders from these work areas and work on improving the quality of information either by reviewing the current tools used and suggesting changes, or engaging in more active dialogue with customers.

## CONCLUSION

In this study we present an approach for identifying and formalizing customer interactions which are subsequently used to drive the value creation process in a PSS. The resulting system dynamics model can be

used to run simulations and indicate weak areas of customer interaction, as well as calculate the effect that improvement in these areas will bring to value creation. In the future, we plan to conduct an extended case study project in Ericsson, where in we identify more areas of customer interaction and interview more stakeholders.

## REFERENCES

- Chandler, J.D. and Vargo, S.L. (2011), "Contextualization and value-in context: How context frames exchange", *Marketing Theory*, 11 (1) 35-49
- Elfving, S. W. and Urquhart, N., (2012), "Product Service System Challenges within Telecommunication: Reaching the Era of Mutual Dependency", *Proceedings of the 4th International Conference on Industrial Product-Service Systems*, 269 – 274
- Enqvist, H. and Casey, T., (2010) "Mobile Communications Industry Scenarios and Strategic Implications for Network Equipment Vendors", *21st European Regional International Telecommunications Society (ITS) Conference*, Copenhagen, Denmark
- Grönroos, C. (2011a), "Value co-creation in service logic": A critical analysis, *Marketing Theory*, 11 (3) 279–301
- Grönroos, C. (2011b), "A service perspective on business relationships: The value creation, interaction and marketing interface", in *Industrial Marketing Management*, 40, (1) 240-247
- Hartman, R.S. (1967), "The Structure of Value: Foundations of a Scientific Axiology", University of Illinois Press, Urbana, Illinois, USA
- Kahn K. B., Strong M. D., Wang Y. R. (2002), "Information Quality Bench-marks: Product and Service Performance", *Communications of the ACM*, 45 (4) 184-192
- Mont, O. (2002), "Clarifying the concept of product-service system." *Journal of Cleaner Production*, 10 237-245.
- Piller F. and Möslin K. (2002), "From Economies of Scale towards Economies of Customer Interaction: Value Creation in Mass Customization Based Electronic Commerce", *15th Bled Electronic Commerce Conference*, Bled, Slovenia
- Saaty L.T., (2008), "Decision Making with the Analytic Hierarchy Process", in *International Journal of Services Sciences*, 1 (1) 83-98
- Vargo S.L. and Lush R.F. (2004), "Evolving to a New Dominant Logic for Marketing", in *Journal of Marketing*, 68 (1) pp. 1-17.
- Vargo S.L. and Maglio P.P. (2008), "On value and value co-creation: A service systems and service logic perspective", *European Management Journal*, 26 (3) 145-152

Vladimirova D., Evans S., Martinez V. and Kingston J. (2011), "Elements of Change in the Transformation towards Product Service Systems", 3d IPS2 Conference, Braunschweig, Germany

# **ADAPTING THE HUMAN SIGMA INSTRUMENT TO ENHANCE THE EMPLOYEE-CUSTOMER ENCOUNTER**

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## **ABSTRACT**

The research ascertains that the Human Sigma instrument can be a useful tool to measure the employee- customer encounter, but recognises that further developments are required. Following the application of the Human Sigma instrument and recent advances in identification theory and management, additional formulations of the Human Sigma instrument has provided more powerful explanations of the links between the employee-customer encounter. In turn, the research enabled the author to devise a new instrument, namely the Human Identification instrument, which evaluates both employee↔customer identification as a critical measure for predicting and managing the service encounter.

## **INTRODUCTION**

The success of any business in a highly competitive and international environment depends on its ability to provide service excellence. Moreover, consumers from all around the globe are seeking to respect businesses that strive to feel human. Nevertheless, it seems that the 'human' aspects of the service offering is often ignored or undervalued by service managers. With this organisational culture it is increasingly difficult to establish a competitive advantage. It is the contact employees, which are often the sources of differentiation that create a competitive advantage. Consequently, the success of many service providers, including those in the tourism and hospitality sector, is dependent upon the 'quality' of the employee-customer encounters. It is imperative therefore, for businesses to understand how the elements in the encounter are evaluated by both the customers and employees.

It is well established that the measurement of service quality is an important procedure for business improvement and management (Gummesson 1993, Edvardsson et al 1994, Parasuraman 2004). However, present research advocates that tourism and hospitality businesses need to utilise instruments to measure and manage the employee-customer encounter (Solnet 2006, Fleming and Asplund 2007). Currently, the traditional approach to managing the service encounter is failing employees and customers as well as business improvement. At present, there is limited research been conducted on the implementation of the Human Sigma instrument – that is a new approach that measures and manages the employee-customer encounter (Fleming and Asplund 2007). Therefore, the purpose of the research was to apply and test the Human Sigma instrument in a hospitality context to establish its value as a business improvement tool.

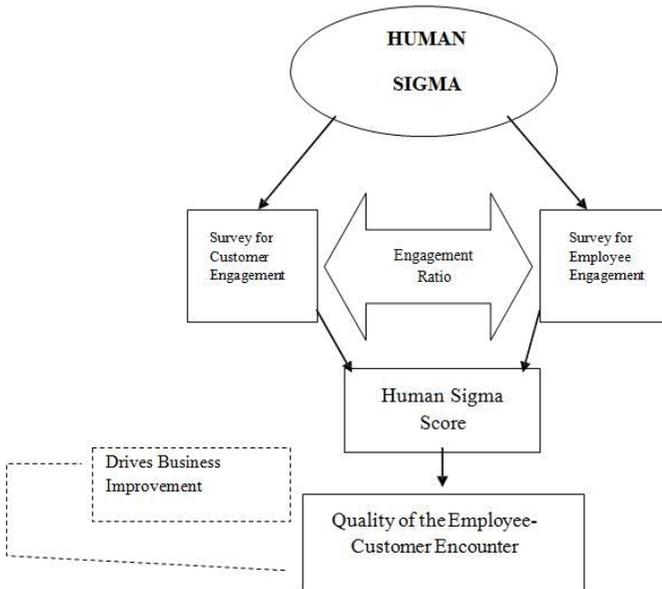
## THE HUMAN SIGMA APPROACH

In response, Human Sigma was originally published in the July/August 2005 special issue of Harvard Business Review, dedicated to the High-Performance Organisation under the title *Manage your Human Sigma* and then in a follow up book – *Human Sigma: Managing the Employee Customer Encounter*, written by John Fleming and Jim Asplund and published in 2007. Fleming and Asplund (2007) developed Human Sigma as a way to measure and manage the human systems of business. Human Sigma helps businesses assess and improve processes that produce a known and predictable outcome – a highly engaged employee-customer encounter (Fleming and Asplund 2007). Human Sigma assesses both employee and customer engagement levels. The engagement scores are leading indicators of the financial performance that a business hopes to achieve (Fleming and Asplund 2007). Gallup, the global research-based consultancy specialising in employee and customer management, developed a quantitative mechanism to measure employee and customer engagement. Based on scoring sets of specific questions asked to both employees and customers, the Human Sigma Metric or HS of an organization is a calculation of relative employee and customer engagement scores. Gallup identified 12 key questions (the Q survey) that serves as an indicator of an organisations degree of employee engagement. This instrument asks employees to answer 12 questions to determine whether they fall into the engaged, non-engaged or actively disengaged categories. The items on the Q12 address issues that either strengthen or weaken the emotional connection between an employee and employer. Some of the areas addressed on this instrument include the degree to which employees have the materials they need to do their job and whether expectations placed on them are clear, whether their supervisor takes an interest in them, whether their opinions matter, and whether they are afforded opportunities to learn and grow (Michelli 2008). Gallup also identified 11 key questions (the CE11) that serves as an indicator of an organisations degree of customer engagement. Taken together, the Q12 and the CE11 forms the basis for Human Sigma.

## THE APPICATION OF THE HUMAN SIGMA INSTRUMENT

Despite Human Sigma being identified as a relevant measurement tool for any service sector business with a high degree of customer contact, there has been no research other than that conducted by the authors published. Emerging from the study of Human Sigma therefore, is a framework to guide the implementation of Human Sigma (Figure 1). An implementation model was constructed:

Figure 1: A Framework for implementing the Human Sigma instrument



Following the results from both the survey of employee engagement and survey of customer engagement the Human Sigma formula was applied. The Human Sigma or HS of a company is a function of employee and customer engagement scores. An organizations HS score is calculated by converting the mean scores on employee and customer engagement into percentile equivalent and then taking the square root of the product of the two percentile values. If either employee engagement percentile or customer engagement percentile is less than or equal to 50 then:

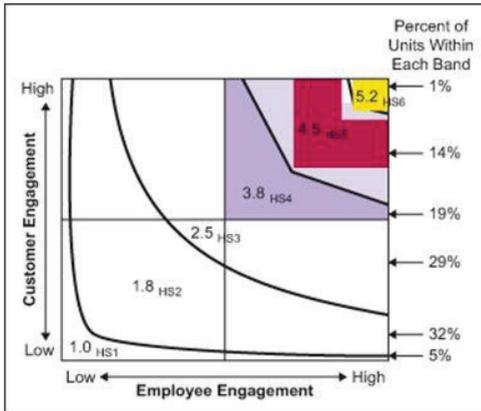
$$HS = \sqrt{\frac{EE \text{ Percentile } (51) \times CE \text{ Percentile } (39)}{2}}$$

Since one of the percentiles is below 50, the formula is  $SQRT(51 \times 39) = SQRT(1989) = 44.6$ . That would fall in HS3 as  $HS1 = 0 \text{ to } < 10$ ;  $HS2 = 10 \text{ to } < 30$ ; and  $HS3 = 30 \text{ to } < 50$ . Since 44.6 is less than 50, it falls in HS 3.

This score is then used to establish threshold values that define each of the Human Sigma levels, HS1 through HS6. The HS4 threshold is defined at 50. An illustrated example is displayed below in figure two.

= HS 1 – 6. The single score summarizes the overall effectiveness of the employee-customer encounter.

Figure 2: Human Sigma Bands



The researcher has empirically tested the Human Sigma hypothesis of engaged employees create engaged customers. The results as displayed above from the application and testing of the Human Sigma instrument in an operational environment, identify that the hotel is scoring high on employee engagement but low on customer engagement. Therefore, the theoretical concept that suggests engaged employees create engaged customers is somewhat flawed. At this level of Human Sigma HS3 (high employee engagement and low customer engagement), organisations or businesses are frequently out of balance, ranking high on one but poor on the other. Therefore, the issues with Human Sigma lie at the operational level. Analysing the results in more detail, the highest rated score on the employee survey was Question 1: I know what is expected of me at work, with an average score = 4.95 (from a 5 point scale). Subsequently, this is the very reason why employees are engaged and customers are not. The employees are often process driven (transactional) and have limited knowledge of the customer's needs and expectations. In the service industry and often in the hospitality sector, businesses often focus on transactional service rather than interpersonal levels of service. Due to the limited control, employees can misinterpret customer requirements which can have a negative and lasting effect on the perceptions of the customer (Berry et al 1988). Schneider and Bowen (1999) suggest that a service consists of an exchange relationship – a psychological construct to have needs gratified in exchange for money, time, and effort. They suggest that the challenge for service firms is to gratify and perhaps delight customers, while avoiding the perception that they do not respect customer needs.

The concepts of role expectations is an especially powerful one for determining the quality of the service encounter. However, issues may occur because the participants do not share common role definitions (Solomon et al 1985). Inter-role Congruence is a term described by Solomon et al (1985) as the degree of agreement between both parties involved in the service transaction regarding the appropriate roles to be played. A lack of congruence in roles toward communication can lead to decreased efficacy of dyadic communication performance. It seems then likely that

the accurate mutual comprehension of role expectations is a pre-requisite for a 'quality' service encounter. Much of social behaviour consists of joint activity – a major task for the interacting person is the mutual coordination of appropriate behaviour with the other person (Thibaut and Kelly 1959). Furthermore, when socio-psychological boundaries are dissolved through employee-customer identification, the collectivistic aspects of the identity become more salient. This collectivistic orientation tends to foster relational exchanges, in contrast to individualistic identity orientations, which maintain a norm of transactional exchange (Flynn 2005).

Therefore, the Human Sigma instrument gives interesting if conflicting results at the case study site. The results indicate that whilst employees have an inaccurate perception of their customer needs, the customer scores reflect that a slightly inaccurate service is being delivered. Therefore, implementing the Human Sigma instrument has addressed the following issues:

- Service quality assessment and the interaction between employee engagement and customer expectations
- Service encounter assessment and the interaction between employee and customer engagement
- The Human Sigma instrument measures organisation identification and is not encounter specific

Thus, it has been noted and discussed in detail and confirmed in this study, that problems arise when there is a discrepancy somewhere in the service system. This inconsistency with expectations, the results signify the employee's perception of the job duties differs from the customer's expectations or the customer's conception of the customer's role differs from the employee's notion of that role. In accordance, therefore, social identification is the extent to which an individual senses a oneness or sameness with others in a social group or setting (Tajfel and Turner 1986). Customer-employee identification is a type or classification of social identification. During the service encounter, the service employee image interacts with the customer's self-concept generating a subjective experience. The rationale behind this comes from social psychology literature. It is argued that people try to protect and enhance their self-concept by affiliating with people whom they perceive to be the same as them (Turner 1985). From a social psychological perspective, individuals attempt to make sense of one another in order to guide their own actions, as well as the social interaction process with others (Fiske 1993). During the consumption process, a particular service user-image interacts with the consumers self-concepts, generating a subjective experience referred to as a self-image congruence (Sirgy 1997). During the service encounter, customers may use some congruent traits that are associated with the human personality and structures that can be used to make sense of other people (Leyens and Fiske 1994), and many form these impressions in even the briefest social interactions (Ambady and Rosenthal 1992). McGinnies and Ward (1986) argue that perceived similarity between customers and employees facilitates communications concerning specific service

attributes. Coulter and Coulter (2002) stated that perceived similarity helps individuals to reduce interpersonal barriers, allows them to identify with others on a personal basis and generates a level of trust and assessment of others according to perceived similarity with themselves. Such findings reflect the theory of homophily (Lazarsfeld and Merton 1964) which argues that individuals enjoy the comfort of interacting with others who are similar to themselves.

Other drivers of employee-customer identification are how front-line employees construe the distinctiveness, similarity, and prestige of the customer's identity (Ashforth and Mael 1989). Many roles in the tourism and hospitality sector, such as those of front-line employees – inherently contain a substantial relational component (Sluss and Ashforth 2007), where employees work at the boundary between the company and the customer. In these cases, conditions are ripe for employees to assess their place in a complex social landscape. The author extends this view, asserting that employee-customer identification enhances the quality of the service encounter. For frontline employees, who span the boundary between the company and its customers the complexity of the 'social landscape' may result in an assessment of the self-concept in relation to the organisation and its customers. It was noted how the Human Sigma scale measures organisation identification. The organisation can be a powerful emblem of group identity for employees. However, recent advances in social identity theory and management suggest that employees can identify with more than the organizational identity (Ashforth et al 2008). It has been argued that relational identities, those which relate to a work relationship with another individual or group (Sluss and Ashforth 2007), can also be a powerful source of self-definition. Consequently, it is suggested that employees identify with customers (employee-customer identification). By identifying with customers, employees perceive themselves to be relatively interchangeable exemplars within the social category, where the employee-customer relationship is a basis for self-definition (Sluss and Ashforth 2007). Employee-customer identification functions independently from identification with the company. However, the two can coexist, converging or competing with one another (Sluss and Ashforth 2008). Employee-customer Identification is a new concept, but the notion that employees can construe the disposition or values of those on the other side of the corporate boundary is already present in the literature. Such, customer- employee identification is thought of as a mirror image of employee-customer identification where customers also identify with the employees.

Therefore, through the review of the literature and the application of Human Sigma, the findings indicate some limitations with the current measures. Scoring high on employee expectations of the job role is somewhat comforting and pleasing for management. However, understanding why your customers have low levels of engagement if your employees are engaged is confusing and an issue for managers and ultimately the success of the business. It is apparent therefore, following the implementation of the Human Sigma instrument, that it fails to measure the connection between the employee and the customer and vice versa. A radical finding from the research and study of Human Sigma is that it only measures the

strength of the relationship between the employee – organisation and the customer – organisation. Consequently, Human Sigma fails to measure the social relationship between the employee↔customer which is vital in determining the quality of the service encounter. Therefore, the measure of employee-customer encounter effectiveness does not appear to be based on any information actually derived at the point of these encounters. An additional criticism of the Human Sigma model is the accuracy of the underpinning theory of engagement. It is questioned as to whether the employee-customer encounter can be measured in terms of engagement. The author submits the premise that further dimensions are required.

Hence, this research attempted further to contribute to the body of knowledge by developing a new model and instrument that captures not only the organisational identification elements but also the social identification aspects of the service encounter (Human Identification Instrument). Therefore, the current research aims to extend the Human Sigma approach to incorporate the impact of both employee-customer identification and customer- employee identification (which involve the degree to which customers and employees, identify and interact with one another to fulfil self-definitional needs/role expectancies) in order to determine the quality of the service encounter.

## CONCLUSIONS

Originally contributing to the body of knowledge, this study was the first known investigation to implement and analyse the Human Sigma instrument in a hospitality setting. This study confirms the views of Fleming and Asplund (2007) about its suitability for high contact service organisations. However, the study did not confirm the view that engaged employees create engaged customers. The inability of employees and customers to understand role expectancies in the service encounter, created a vital link to the importance of social identification in managing and measuring the employee-customer encounter.

In analysing the items inherent within Human Sigma, the significance of high employee and customer engagement is dependent on both employee↔customer identification – which involves understanding role expectations in the service encounter. Therefore, the construct 'mutual understanding' (Bitner et al 1990) between customers and employees emerges as an important underlying factor in determining engagement in service encounters. It also confirms the recent advances in social identity theory and management that suggest employees can identify with more than the organisation (Ashforth et al 2008) likewise customers can identify with more than the organisation. This study indicates that both employee↔customer identification impacts on the evaluation of the service encounter.

## REFERENCES

- Ambady, N., and Rosenthal, R., (1992), "Thin Slices of Expressive Behaviour as Predictors of Interpersonal Consequences: A meta-analysis", *Psychological Bulletin*, 111 256-274.
- Ashforth, B. E., Harrison, S, and Corley, K., (2008), "Identification in Organizations: An Examination of Four Fundamental Questions", *Journal of Management*, 34 (3) 325.
- Ashforth, B. E., and Mael, F., (1989), "Social Identity Theory and the Organization," *Academy of Management Review*, 14 (1) 20-39.
- Berry, L. L., Parasuraman, A. and Zeithaml, V. A., (1988), "The Service-Quality Puzzle", *Business Horizons*, 31 (5) 35-43.
- Bitner, M. J., Booms, B. H., and Tetreault, M. S., (1990), "The Service Encounter: Diagnosing Favourable and Unfavourable Incidents", *The Service Encounter*, 54 (January) 71-84.
- Coulter, K. S., and Coulter, A., (2002), "Determinants of Trust in a Service Provider: The Moderating Role of Length of Relationship", *Journal of Services Marketing*, 16 (1) 35-50.
- Edvardsson, B., Thomasson, B., and Ovretveit, J., (1994), *Quality of Service: making it really work*, McGraw-Hill, UK.
- Fiske, S., (1993), "Social Cognition and Social Perception", *Annual Review of Psychology*, 44 155-194.
- Fleming, J. H., and Asplund, J., (2007), *Human Sigma: Managing the Employee-Customer Encounter*, Gallup Press, Washington.
- Flynn, F., (2005), "Identity Orientations and Forms of Social Exchange in Organizations", *Academy of Management Review*, 30 (4) 737-50.
- Gummesson, E., (1993), "Service Productivity: a blasphemous approach", *Service Management and Marketing Conference Proceedings*, Cardiff July.
- Lazarsfeld, P., and Merton, R., (1964), *Friendship as Social Process: A Substantive and Methodological Analysis in Freedom and Control in Modern Society*, M. Berger, ed., New York: Octagon.
- Leyens, J., and Fiske, S. T., (1994), *Impression Formation: From recitals to symphonie fantastique*. In Devine, P. G, Hamilton, D., and Ostrom, T., (Eds.) *Social Cognition: Impact on Social Psychology*, Academic Press, San Diego.
- Michelli, J.A., (2008), *The New Gold Standard*, McGrawHill, NY.
- McGinnies, E., and Ward, C., (1986), "Better Liked than Right:

trustworthiness and expertise in credibility”, *Personality and Social Psychological Bulletin*, 6 (September) 467-472.

Parasuraman, A., (2004), “Assessing and Improving Service Performance for Maximum Impact: insights from a two-decade-long research journey”, *Performance Management and Metrics*, 5 (2) 45-52.

Schnieder, B., and Bowen, D., (1999), “Understanding Customer Delight and Outrage”, *Sloan Management Review*, Fall 35-45.

Sirgy, M., Grewal, D., Mangleburg, T., Park, J., Chon, K., Claiborne, C., Johar, J., and Berkman, H., (1997), “Assessing the predictive validity of two methods of measuring self-image congruence”, *Journal of the Academy of Marketing Science*, 25 (3) 229-241.

Solnet, D., (2006), “Introducing Employee Social Identification to Customer Satisfaction Research: A hotel industry study”, *Managing Service Quality*, 16 (6) 575-594.

Sluss, D. M., and Ashforth, B. E., (2008), “How Relational and Organizational Identification Converge: Processes and Conditions”, *Organization Science*, 19 (6) 807-23.

Solomon, M.R, Surprenant, C.F, Czepiel, J.A, and Gutman, E. G., (1985), “A Role Theory Perspective on Dyadic Interactions”, *Journal of Marketing*, 49 (Winter) 99-111.

Sluss, D. M., and Ashforth, B. E., (2007), “Relational Identity and Identification: Defining Ourselves through Work Relationships”, *Academy of Management Review*, 32 (1) 9-32.

Tajfel, H., and Turner, C., (1986), *The Social Identity Theory of Inter-Group Behaviour*, in *Psychology of Intergroup Relations*, Worchel, S., and Austin, L.W., eds. Nelson-Hall Chicago.

Thibaut, J., and Kelley, H., (1959), *The Social Psychology of Groups*, Wiley, New York.

Turner, J., (1985), *Social Categorization and the Self-Concept: A social cognitive theory of group behaviour*, in *Advances in Group Processes: Theory and Research*, Lawler, E., ed., JAI Press, Greenwich.

# ADAPTIVE MOBILE PERSONALIZATION USING SOCIAL NETWORKS

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## ABSTRACT

We present an adaptive personalization system for personalizing news feeds on mobile devices. The system provides a scroll of news headlines, from which the user may choose to read one or more of the underlying articles. It learns from an individual's reading history and adapts the news feeds shown to the user. Most importantly, the system automatically discovers new material as a result of shared interests in the user's social network. The system is based on a text-analysis of the news articles and a Bayes estimator, using only closed form calculations, and runs in real time. We tested the proposed system using both simulations and a field study in which it was implemented on mobile devices. We show that using article choices from an individual's social network improves the quality of personalization, leading to more readership of the news articles provided. The study suggests that utilizing social networks may be a promising avenue for improving personalization of services.

## INTRODUCTION

Historically, advances in technology have enabled leading firms to adapt and personalize products/services to better fit the individual (Khan, Lewis and Singh 2009, Varki and Rust 1998). Mobile devices present many opportunities for such personalization of service (Lyytinen and Yoo 2002). But, as yet, there is only limited research showing how to personalize in a mobile environment (Chung, Rust and Wedel 2009; Shapira et al. 2009). The rapidly growing literature on social contagion has shown that social proximity to others can influence whether consumers try out new products and services (Bell and Song 2007; Godes and Mazlin 2009; Iyengar and Van den Bulte 2011), making the use of social networks a promising path to personalization. The intended contribution of the present research is therefore to develop and implement a personalization system for mobile news, and to show how the consideration of social networks can improve this personalization. We investigate the effectiveness of this system, which is built on the premise of fully automated personalization without proactive user evaluation or overt sharing of news-items. To address the challenges of mobile personalization, we propose a simple Bayesian filtering approach, which makes mobile personalization feasible, scalable, and robust.

## SYSTEM DESIGN

An RSS feed reader was developed for the PDA, which filters the RSS feeds from a news website. News filters are personalized for each individual user, and the filtered news is downloaded into the PDA.

The software starts up with the main screen showing the option to "Display

Available Headlines". The news headlines of the filtered RSS feeds are scrolled one headline at a time when this option is chosen. If the "Read News Story" button is not tapped when a particular headline is shown, the software records that this headline is skipped. When the user taps on "Read News Story", the next screen with the caption: "News Content" pops up. On this screen the content of the article is displayed. When the content spans more than a full screen, the reader can use the scroll bar on the right to access the later portion of the article. When the "Back" button is tapped, the software returns to the main screen and the scrolling of the headlines continues.

The data captured from the PDA (stored in the reading log) reflects whether a reader skips the headline without choosing to read the article in detail, or taps on the "Read Story" button to read the article, the time that a reader spent reading an article: the time between tapping the "Read Story" button and the "Return" button (seconds), and the actual content of the news stories (dummy variables indicating each word in the text).

## CONTRIBUTIONS OF THE ADAPTIVE PERSONALIZATION SYSTEM

The proposed adaptive personalization system provides users with several benefits. The system automates frequent decisions that many consumers prefer to avoid making. Removing the need for making a decision about which news articles to read reduces search effort (Bechwati and Xia 2003) and the cost of processing information (Shugan 1980), which makes exploring and reading news more pleasurable and satisfactory (Bechwati and Xia 2003; Häubl and Trifts 2000). In addition, the system does not require asking individuals explicitly for their reading preferences or news categories of interest. This avoids problems of missing information due to users' unwillingness to actively provide their evaluations of news articles (Ying, Feinberg and Wedel 2006), of unfamiliar items receiving less positive evaluations (Cooke et al. 2002), and of users idiosyncratically responding to rating scales provided to them (Rossi, Gilula and Allenby 2001). It also eliminates shilling attacks that frequently occur among recommendation systems that are based on user-input (Lam and Riedl 2004). Further, the system assists users in unobtrusively discovering new relevant news through their social network, without the need to actively share content, and without an undue influence of heavy users or opinion leaders (Godes 2011). Finally, the approach is based on only closed-form expressions, which makes it both robust and scalable.

## CONCLUSIONS

We designed, programmed, implemented and tested an adaptive personalization system for mobile news that automatically employs information from users' social networks. In a closed loop, the system learns over time from the behavior of the user and her social network, and improves the news stories presented to increase readership. The approach continuously adapts personalization of services to changing behavior, without requiring proactive effort in the form of ratings, the selection of categories of interest, or active sharing of preferred content among the social network. The results of our study show that the system

personalizes products/services effectively, and lends support to the idea that social networks can be utilized unobtrusively for personalization. The results of our study indicate that the proposed approach is a substantial improvement on the present industry practice of personalizing using preferred news categories.

This research thus documents that using information from the individual's social network can significantly improve personalization performance. This is true even when, as was the case in the simulated data, social networks are generated at random, or, as was the case in the field study, the social networks consist of small groups. Because the experimental social networks were small and perhaps less coherent than most naturally-occurring social networks, the social network impact that we have observed may only provide a lower bound to the impact that can be had from personalization through real-life social networks. In practice social networks will generally be larger and have more in common than in our field study. Thus, we anticipate that the impact of collaborative personalization through the social network will in real-life likely be even more pronounced than what was observed in this study.

## REFERENCES

Bechwati, N. N., X. Lan. 2003. Do Computers Sweat? The impact of Perceived Effort of Online Decision Aids on Consumers' Satisfaction with the Decision Process. *Journal of Consumer Psychology*. 13(1&2) 139-148.

Bell, D.R., S. Y. Song, 2007, Neighborhood effects and trial on the internet: Evidence from online grocery retailing. *Quantitative Marketing and Economics*. 5(4) 361-400.

Chung, T.S., R.T. Rust, M. Wedel. 2009. My Mobile Music: An Adaptive Personalization System for Digital Audio Players. *Marketing Science*. 28(1) 52-68.

Cooke, A.D. J., H. Sujan, M. Sujan, B. A. Weitz. 2002. Marketing the unfamiliar: The role of context and item-specific information in electronic agent recommendations. *Journal of Marketing Research*. 39(4) 488-497.

Godes, D. 2011. Invited comment on "Opinion leadership and social contagion in new product diffusion." *Marketing Science*. 30(2) 224 – 229.

Godes, D., D. Mayzlin. 2009. Firm-Created Word-of-Mouth Communication: Evidence from a Field Study. *Marketing Science*. 28(4) 721-739.

Häubl G., V. Trifts. 2000. Consumer Decision Making in Online Shopping Environment: The Effects of Interactive Decision Aids. *Marketing Science*. 19(1) 4-21.

Iyengar, R., C. Van den Bulte,, T. W. Valente. 2011. Opinion Leadership and Social Contagion in New Product Diffusion. *Marketing Science*. 30 (2),

195-212.

Khan, R., M. Lewis, V. Singh. 2009. Dynamic Customer Management and the Value of One-to-One Marketing. *Marketing Science*. 28(6) 1063-1079.

Lam, S.K. J. Riedl. 2004. Shilling recommender systems for fun and profit. In: WWW '04: Proceedings of the 13th international conference on World Wide Web. New York, NY, USA, ACM Press 2004 393 – 402.

Lyytinen, K., Y. Yoo. 2002. Research Commentary: The Next Wave of Nomadic Computing. *Information Systems Research*. 13 (4), 377- 388.

Rossi, P. E., Z. Gilula, G. M. Allenby. 2001. Overcoming scale usage heterogeneity: A Bayesian Hierarchical Approach. *Journal of the American Statistical Association*. 96(453) 20-31.

Shapira, B., P. Shoval, N. Tractinsky, J. Meyer. 2009. ePaper: A personalized mobile newspaper. *Journal of the American Society for Information Science and Technology*. 60 (11), 2333-2346.

Shugan, S.M. 1980. The Cost of Thinking. *Journal of Consumer Research*. 7(2) 99-111.

Varki, S., R.T. Rust. 1998. Technology and Optimal Segment Size. *Marketing Letters*. 9(2) 147-167.

# AN EMPIRICAL TEST OF SERVICE ECO-CERTIFICATION SIGNALING EFFECT

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## ABSTRACT

Eco-certifications, which certify the environmental soundness of products or services, have proliferated in practice. However, critical knowledge gap exists regarding whether service eco-certifications inform customers and differentiate green service providers. This article investigates the relationship between eco-certification and resource consumption in services. We combine information economics theory of signaling games and operations literature on service co-production to generate and test hypotheses using a sample of 2,893 U.S. hotel properties. The evidence supports the signaling effect for second- or third-party certified, auditable eco-certifications. The findings underscore the importance of green initiatives combined with credible signals in promoting eco-friendly service co-production.

## INTRODUCTION

Customer expectation for firms to address environmental issues has become the mainstream – 96-percent respondents of a 2011 global survey chose “important” and 69-percent chose “very important” on this subject (Cone/Echo, 2011). Eco-certifications, which certify the environmental soundness of products and services, in theory can fill an inherent information gap between the firm and the customers (Shrivastava, 1995; Miles and Covin, 2000; Mason, 2006). However, what we have seen are wide concerns of consumer confusion and distrust accompanying the proliferation of eco-certifications (Rheem, 2009; Terrachoice, 2009).

The juxtaposition of proliferation and distrust highlights an urgent need for understanding the circumstances when eco-certifications effectively inform customers and contribute to reducing the environmental impact from producing and consuming the products and services. To this end, we combine information economics theory on signaling games (Akerlof, 1970; Spence, 1973) and service co-production literature (Bettencourt et al., 2002; Sampson and Froehle, 2006) to generate hypotheses on the relationship between eco-certification signals and resource consumption efficiency in service operations. We test the hypotheses in the U.S. hotel industry. Hotels are typical service settings that feature the service provider and customers interacting and co-producing the service, which is ideal for researching the signaling dynamics and the resource consumption outcome. The empirical evidence from a unique dataset combining Travelocity Green Hotel Directory and the operating details of 2,893 U.S. hotel properties supports the signaling effect of second- and third-party auditable eco-certifications.

This study contributes to research related to environmental management of services, sustainable service implementation, customer relationship management, and green marketing. We believe it is the first within the operations management literature that explores the above research issues using a large archival dataset and attempts to estimate the effect of eco-certification signaling on resource consumption.

The remainder of the article is as follows: we first develop hypotheses from relevant literature on environmental management, signaling games, and service co-production; we then describe the empirical research design and hypotheses testing results; we conclude by discussing the theoretical and managerial implications of the study.

## THEORY AND HYPOTHESES

Previous research has examined how environmental management standards such as ISO 14001 may function as credible signals of superior environmental performance for manufacturers (Delmas, 2001; King et al., 2005). However, the signaling effect of eco-certification in a service context has been overlooked, despite the customer confusion and distrust surrounding eco-certification proliferation in practice. This is a critical knowledge gap in our service economy striving for sustainable development (Kassinis and Soteriou, 2003). We attempt to understand the phenomenon of eco-certifications as signals of eco-friendly services. If the signaling effect does exist, then the customers are better informed about environmentally sound services, thus enabling eco-friendly service providers to differentiate and attract eco-conscious customers. We examine the resource consumption variations resulting from such differentiation by combining the service co-production literature with the information economics theory of signaling games.

In service operations, customers and service providers interact extensively to co-produce the service experience (Chase, 1978; Roth and Jackson, 1995; Gupta and Vajic, 2000; Sampson and Froehle, 2006). This co-production nature directly impacts resources consumed during services. For example, linen and towel reuse programs are the most common environmental initiative in hotels (AH&LA, 2008), in which the hotel operator trains the housekeeping staff and places signage to inform their customers, but it is still up to the customers to act on the suggestions. The service co-production literature therefore leads to two underlying factors that drive resource consumption in services – one determined by the operational choices made by the service provider, and the other by the consumption profile of the customers (Zhang et al., 2012a). When service eco-certifications signal effectively, we expect to observe systematic variations in both drivers because service eco-certifications affect them by first certifying the operations and then informing customers.

The theory of signaling games elucidates how eco-certifications inform customers and affect the customer consumption profile as a result. Central to this theory are credible signals that reduce information asymmetry between a seller and a buyer (Akerlof, 1970; Connelly et al., 2011). An inherent information asymmetry exists between the service provider and end customers regarding the environmental soundness of services, since

the eco-friendliness of a service often derives from switching to renewable energy sources, eco-friendly materials and processes, etc. These are credence attributes difficult to perceive by customers through observation (Nelson, 1970, 1974). Credible signals inform customers about the credence attributes to help differentiate the green service providers from the rest.

The credibility of an eco-certification lies in the certifying entity and the audit requirement (Pullman and Sauter, 2012). First-party or self-certifications are claims made by service providers themselves or industry groups, which don't involve outside verification. In this case, "eco-friendly" has no substantive meaning because such claim is not regulated or verified. Second-party certifications are granted by a purchasing entity, which emphasizes "user's perspective" interest in the product or service. Third-party certifications are granted by an independent party that has no vested interest in the outcome and conducts an audit to determine if standards are met. Therefore, service providers that are certified by a second- or third-party with audit guarantee send credible signals while those self-certified or uncertified don't. We study resource consumption efficiency variations across these two types of service providers to test for the signaling effect of credible service eco-certifications.

If there is no signal or signals fail to inform customers, Akerlof (1970) predicted that a "market of lemons" (i.e., market filled with low quality used cars only) would result because uninformed buyers make low offers that are only profitable for low quality cars. Bond (1982) directly tested this prediction in an empirical study of used pickup trucks by comparing the probability of maintenance between two samples – trucks purchases used vs. those purchased new for the same model year and mileage. The empirical test produced no evidence of significant difference in the probabilities of maintenance between those two groups, which indicated that credible signals such as warranty might have contributed to the efficient market outcome (i.e., good cars and bad cars co-exist but sold for differential prices) (Bond, 1982).

Applying Bond's logic to the service eco-certification signaling, we compare the resource consumption efficiency between two types of service providers: (1) green service providers, who are eco-certified by second- or third-party and guaranteed an audit, and (2) non-green service providers, who are either self-certified or without an eco-certification. If eco-certifications effectively signal eco-friendly services, then the end customers are informed and able to tell the two types apart. Therefore, we expect to observe following resource consumption efficiency patterns: (1) the green service providers demonstrate higher resource consumption efficiency than their non-green counterparts; and (2) the customer profile of the green service providers are more eco-conscious than that of the non-green ones. We thus propose following two related hypotheses:

Hypothesis 1. Green service providers demonstrate higher level of resource consumption efficiency in operations than the non-green ones.

Hypothesis 2. Green service providers experience higher resource

consumption efficiency by their customers than the non-green ones.

Producers apprehensive about potential backlash of eco-certifications (Bonini and Oppenheim, 2008) may choose to implement green practices but not officially certified. For example, researchers have found that wine producers implemented costly eco-certification practices but chose not to be labeled as such for fear of inferior quality perception (Delmas and Grant, 2010). In services, however, there is empirical evidence that the customers generally respond positively to environmental initiatives (Susskind and Verma, 2011) and that eco-certification is the most influential green attribute of hotel rooms (Millar and Baloglu, 2011). We therefore posit that eco-certification signals help service providers attract more eco-conscious customers in the following hypothesis:

Hypothesis 3. Service providers experience higher customer resource consumption efficiency by taking on credible service eco-certifications.

## EMPIRICAL RESEARCH DESIGN

We test the hypotheses using a sample of 2,893 U.S. hotel properties. This is a unique large-scale dataset that matches a proprietary dataset on hotel properties' 2011 operating statements (see the Appendix for details on the survey mechanism by our data partner PKF Hospitality Research) with the Green Hotel Directory from Travelocity.com (accessed between February and April 2012). Travelocity Green Hotel Directory only awards eco-friendly designation to hotels certified by second- and third-party, whose standards closely align with the Global Sustainable Tourism Criteria (GSTC) and who can guarantee an audit (Travelocity, 2011). The combined dataset provides information on the consumption of key resources (water, electricity, and materials) in hotel operations and eco-certification status of 2,893 hotel properties across the U.S.

We are interested in dependent variables that measure resource consumption efficiency in service co-production. We apply exploratory factor analysis (EFA) (Hair et al., 1995) to basic resources and materials used for revenue generation, including electricity, water and sewer expenses, as well as various supplies consumed in the Rooms Department, Food and Beverage (F&B) Department, and Maintenance and Engineering Department. Table 1 reports the EFA factor loadings on the two factors extracted from the five revenue normalized expenses.

Table 1: Factor loadings, promax rotated, Kaiser off, N=2893

Revenue Normalized Expenses	Customer-Centered Factor (CCF)	Operations-Centered Factor (OCF)
Electricity	0.11	0.64
Water	-0.21	0.56
Maintenance other expense	0.29	0.49
Supplies used in F&B Department	0.66	0.04
Supplies used in Rooms Department	0.62	0.02

The loadings are the basis for weights for calculating the factor scores, which measure the level of resource consumption efficiency for every unit of revenue generated. The customer-centered factor score (CCF) of a hotel property is a normalized cost efficiency measure of resource consumption driven by customer decisions, due to the higher loadings associated with the supplies used to serve customers by the Rooms and F&B departments). CCF therefore captures the profile of customer resource consumption of a hotel property. The operations-centered factor score (OCF) measures the resource consumption efficiency responsible by the service provider, due to the higher loadings associated with the utilities and maintenance expenses in Table 1. All five basic resources consumed in service co-production influence the two types of factor scores, with weights varying according to the underlying drivers. Hotels that score below zero are more cost efficient than the average, while positive scores indicate the opposite.

The predictor variable is credible eco-certification signal, which is the ecoleaf flag in the Travelocity's Green Hotel Directory. Ecoleaf equals 1 for second- or third-party and auditable certifications, 0 otherwise.

We control for alternative explanations of resource consumption efficiency variations by including number of rooms, average daily rate (ADR), occupancy rate, and property type dummies in the model. Economies of scale could be shown to contribute to more efficient use of managerial, financial, marketing and technological resources, etc. (Christensen and Greene, 1976), for which annual average of occupancy rate and log transformed number of rooms are the controls. In addition, hotel service offerings are highly differentiated in pricing, amenities, function and levels of service provided and researchers have shown that customers consumption action is still largely driven by other product or service attributes such as perceived quality and price (Manaktola and Jauhari, 2007; Millar and Baloglu, 2011). We control for such variation using average ADR and the property type of a hotel. Table 2 lists the descriptive statistics and correlations among the key variables.

Table 2: Descriptive statistics and correlations, N =2893

Variable	Mean	SD	1	2	3	4	5
1. CCF	0.00	1.33					
2. OCF	0.00	1.32	0.12**				
3. Ecoleaf	0.12	0.32	0.11*	0.18*			
4. ADR	100.64	70.76	0.29*	0.45*	0.23*		
5. LogRooms	5.07	0.60	0.11*	0.50*	0.45*	0.44*	
6. Occupancy	0.70	0.11	0.40*	0.33**	0.05*	0.07*	0.001

\* Correlation is significant at the 0.05 level

We use a series of regression models to test for the systematic variations that we posit to be observable if credible service eco-certifications inform the customers through signaling. Table 3 reports the regression results, which support hypotheses 1, 2 and 3.

The negative coefficient estimate for ecoleaf (-0.233) in the H1 column indicates that the green service providers are more eco-friendly in their operations than the non-green service providers. In essence, H1 empirically verifies the credibility of the ecoleaf signal. Similarly, the negative coefficient estimate for ecoleaf (-0.193) in the H2 column indicates that the customer profile of the green service providers is more eco-conscious than that of the non-green service providers.

Table 3: Coefficient estimates (standard error) from regression analysis

	H1 (D.V. = OCF)	H2 (D.V. = CCF)	H3 (D.V. = CCF)
Ecoleaf	-0.233*** (0.059)	-0.193*** (0.073)	-0.142* (0.072)
OCF	--	--	0.218*** (0.023)
ADR	0.003*** (0.000)	-0.005*** (0.000)	-0.006*** (0.000)
LogRooms	0.373*** (0.043)	0.028 (0.053)	-0.053 (0.053)
Occupancy	-2.995*** (0.169)	-5.262*** (0.207)	-4.610*** (0.215)
Convention hotels <sup>a</sup>	-1.069*** (0.218)	-1.834*** (0.268)	-1.602*** (0.265)
Extended stay	-2.076*** (0.194)	-1.393*** (0.238)	-0.941*** (0.239)
Full Service	-0.756*** (0.189)	-1.845*** (0.232)	-1.680*** (0.229)
Limited Service	-1.796*** (0.192)	-2.187*** (0.236)	-1.796*** (0.235)

Resort	-0.132 (0.203)	-0.512** (0.249)	-0.483* (0.245)
Suite hotel	-1.729*** (0.200)	-1.830*** (0.245)	-1.453*** (0.244)
Adj. R <sup>2</sup>	0.55	0.33	0.35

\*, \*\*, \*\*\* Correlation is significant at  $\alpha=0.05$ , 0.01 and 0.001, respectively.

<sup>a</sup> The reference group contains conference center hotels.

H3 further compares the customer profiles between the two types of service providers by holding the operating resource consumption efficiency constant. The negative coefficient estimate of *ecoleaf* (-0.142) means that the green service providers can attract even more eco-conscious customers when they signal credibly along with their eco-friendly operations. H2 and H3 together demonstrate the signaling effect of eco-certifications. That is, credible eco-certification signals help more eco-conscious customers choose green service providers over their non-green counterparts.

## CONCLUSION

In summary, we show that, if implemented and communicated with credibility, eco-certifications can inform the target customers and differentiate the green service providers from the rest, which help them attract more eco-conscious customers. Our study is among the first to shine light on the signaling effect of eco-certifications in services. By focusing on the resources consumed during service co-production, we begin to fill the knowledge gap in the information exchange dynamics in environmental management for services. We show that undertaking green initiatives in operations and credibly communicating it to the eco-conscious customers achieves the highest customer resource consumption efficiency, which increases our understanding of customer relationship management and green marketing in sustainable service implementation.

The main managerial implication of our study is that doing green and saying it credibly can increase both cost efficiency and profitability (Zhang et al., 2012b). Managers interested in creating a win-win of economic and environmental performance should pursue credible eco-certifications and communicate this information through proper information channels. As the environmental sensibility in the society continues to grow steadily (GFK, 2011) and customers search extensively before making a purchase decision (e.g., 9.5 research sessions prior to booking (ThinkWithGoogle, 2012)), taking advantage of the signaling effect poses ever expanding opportunities.

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## REFERENCES

- AH&LA, 2008. Green survey results, [http://www.ahla.com/uploadedFiles/AHLA/Programs\\_and\\_Initiatives/Green/Green%20survey%20results.pdf](http://www.ahla.com/uploadedFiles/AHLA/Programs_and_Initiatives/Green/Green%20survey%20results.pdf), accessed on February 8, 2010.
- Akerlof, G.A., 1970. The market for "lemons": Quality uncertainty and the market mechanism. *The Quarterly Journal of Economics* Vol. 84, No. 3. 488-500.
- Bettencourt, L.A., Ostrom, A.L., Brown, S.W., R.I., R., 2002. Client co production in knowledge-intensive business services. *California Management Review* Vol. 44, No. 4. 100-128.
- Bond, E.W., 1982. A direct test of the "lemons" model: the market for used pickup trucks. *The American Economic Review* Vol. 72, No. 4. 836-840.
- Bonini, S.M., Oppenheim, J.M., 2008. Cultivating the green consumer. *Stanford Social Innovation Review* Vol. 6, No. 56-61.
- Chase, R.B., 1978. Where does the customer fit in a service operation? *Harvard Business Review* Vol. 56, No. 6. 137.
- Christensen, L.R., Greene, W.H., 1976. Economies of scale in US electric power generation. *The Journal of Political Economy* Vol. 84, No. 4. 655-676.
- Cone/Echo, Cone/Echo Global CR Opportunity Study. 2011. Cone Communications.
- Connelly, B., Ketchen, D., Slater, S., 2011. Toward a "theoretical toolbox" for sustainability research in marketing. *Journal Of The Academy Of Marketing Science* Vol. 39, No. 1. 86-100.
- Delmas, M.A., 2001. Stakeholders and competitive advantage: the case of ISO 14001. *Production and Operations Management* Vol. 10, No. 3. 343-358.
- Delmas, M.A., Grant, L.E., 2010. Eco-Labeling Strategies and Price-Premium: The Wine Industry Puzzle. *Business & Society*, March 2010.
- GFK, 2011 Green Gauge US Report. 2011. GFK Roper Consulting.
- Gupta, S., Vajic, M., 2000. The contextual and dialectical nature of experiences, In: Fitzsimmons, J.A., Fitzsimmons, M.J. (Eds), *New service development: creating memorable experiences*. Sage Publications, Inc., Thousand Oaks, California, pp. 33-51.
- Hair, J.F.J., Anderson, R.E., Tatham, R.L., Black, W.C., 1995. *Multivariate data analysis: with readings*. Prentice-Hall, Inc., Upper Saddle River, NJ.

Kassinis, G.I., Soteriou, A.C., 2003. Greening the service profit chain: The impact of environmental management practices. *Production and Operations Management* Vol. 12, No. 3. 386-403.

King, A.A., Lenox, M.J., Terlaak, A., 2005. The strategic use of decentralized institutions: Exploring certification with the ISO 14001 management standard. *The Academy of Management Journal* Vol. 48, No. 6. 1091-1106.

Manaktola, K., Jauhari, V., 2007. Exploring consumer attitude and behaviour towards green practices in the lodging industry in India. *International Journal of Contemporary Hospitality Management* Vol.19, No. 5. 364-377.

Mason, C., 2006. An economic model of ecolabeling. *Environmental Modeling and Assessment* Vol. 11, No. 2. 131-143.

Miles, M.P., Covin, J.G., 2000. Environmental Marketing: A Source of Reputational, Competitive, and Financial Advantage. *Journal of Business Ethics* Vol. 23, No. 3. 299-311.

Millar, M., Baloglu, S., 2011. Hotel guests' preferences for green guest room attributes. *Cornell Hospitality Quarterly* Vol. 52, No. 3. 302-311.

Nelson, P., 1970. Information and Consumer Behavior. *Journal of Political Economy* Vol. 78, No. 2. 311-329.

Nelson, P., 1974. Advertising as Information. *Journal of Political Economy* Vol. 82, No. 4. 729-754.

Pullman, M.E., Sauter, M., 2012. *Sustainability Delivered: Designing Socially and Environmentally Responsible Supply Chains*. Business Expert Press

Rheem, C., 2009. *Going Green: The Business Impact of Environmental Awareness on Travel*. PhoCusWright Inc.

Roth, A.V., Jackson, W.E., 1995. Strategic determinants of service quality and performance: Evidence from the banking industry. *Management Science* Vol. 41, No. 11. 1720-1733.

Sampson, S.E., Froehle, C.M., 2006. Foundations and implications of a proposed Unified Services Theory. *Production and Operations Management* Vol. 15, No. 2. 329-343.

Shrivastava, P., 1995. The Role of Corporations in Achieving Ecological Sustainability. *The Academy of Management Review* Vol. 20, No. 4. 936-960.

Spence, M., 1973. Job Market Signaling. *The Quarterly Journal of Economics* Vol. 87, No. 3. 355-374.

Susskind, A.M., Verma, R., Hotel guests' reactions to guest room sustainability initiatives. Cornell Hospitality Report, Vol. 11, No. (2011). The Center for Hospitality Research at Cornell University.

Terrachoice, 2009. The Seven Sins of Greenwashing, Terrachoice Environmental Marketing, Ottawa, April

ThinkWithGoogle, 2012. The Five Stages of Travel, <http://www.thinkwithgoogle.com/insights/featured/five-stages-of-travel/>, accessed on July, 2012.

Travelocity, 2011. <http://www.travelocity.com/TravelForGood/gr-directory.html>, accessed on January 10, 2012.

Zhang, J.J., Joglekar, N.R., Verma, R., 2012a. Exploring Resource Efficiency Benchmarks for Environmental Sustainability in Hotels. Cornell Hospitality Quarterly Vol. 53, No. 3. 229-241.

Zhang, J.J., Joglekar, N.R., Verma, R., 2012b. Pushing the Frontier of Sustainable Service Operations: Evidence from the U.S. Hospitality Industry. Journal of Service Management Vol. 23, No. 3. 24.

## APPENDIX

PKF Hospitality Research (PKF-HR) has collected annual operating statements from thousands of hotels across the United States since 1936, reporting over 200 revenue and expense items in their proprietary Trends in The Hotel Industry database. Participation in the survey is voluntary, which is done using survey forms or simply by sending copies of December profit and loss statements. To ensure comparability, PKF-HR enters all the data it receives in accordance with the classification system prescribed by the most current edition of the Uniform System of Accounts for the Lodging Industry (USALI).

# **APPLYING SENTIMENT ANALYSIS TO GAIN NEW INSIGHTS FROM CRITICAL INCIDENT DATA**

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## **ABSTRACT**

Founded on our work utilizing the critical incident technique (CIT) to evaluate culture at healthcare providers, we describe a methodology for using sentiment analysis to gain understanding from narrative data. We discuss the process for applying sentiment analysis to explore CIT data and demonstrate how this process results in insights from narrative data. We demonstrate how our proposed methodology applied to a CIT case study provided culture comparisons consistent with manual analysis conducted by trained researchers with less effort and time. We conclude with recommendations for researchers to implement sentiment analysis techniques to CIT data to replace or supplement manual methods.

## **THE LATENT VALUE OF ACCUMULATED RESPONSE DATA**

Service organizations today are inundated with unstructured data from ever increasing sources. Company complaint processing systems, customer feedback websites, and social media generate large amounts of data that comprise an allegorical gold mine for understanding customer preferences and satisfaction. The problem for today's service organizations is how to 'mine' these datasets effectively to make sense of trends, opportunities, and areas of improvement.

Evaluating existing methods within the toolset of engineering management for gaining meaning from narrative text, the critical incident technique (CIT), developed by Flanagan (1954), seems well suited for the task. This well-established method for collecting rich information to describe service quality and organizational culture relies upon interview responses or narrative descriptions to describe incidents of particular satisfaction or dissatisfaction. As with social media and customer feedback websites, CIT allows customers to describe an incident in their own words without being forced into a defined response pattern such as a Likert scale or being forced to answer a leading question such as 'how did you enjoy our new customer concierge service?'

Further evaluating the data analysis process of the Critical Incident Technique, however, reveals a limitation in its application to expansive datasets. This limitation is its reliance upon individual review and classification of responses through 'inductive development of main and subcategories' and often subjective ratings without clear rules that lead to a lack of reliability (Gremier, 2004). Additionally, researchers often rely upon self-reported ratings of an incident on a Likert scale that can result in inconsistent classification among respondents. For reviews of hundreds of responses, classification is possible, although time consuming and tedious for researchers. If we consider each customer complaint or feedback response as a critical incident, a large global company may collect tens

of thousands of responses per day. The scope of data being collected overwhelms the ability of a group of raters to systematically classify responses and clarify overarching trends and themes. In response to this limitation, an option for processing large sets of text responses for content and sentiment is required. The recent development of sentiment analysis algorithms for parsing text provides a new option for evaluating these expansive datasets.

## INTRODUCTION TO SENTIMENT ANALYSIS

Sentiment analysis, or emotional polarity computation, is a toolset to determine the attitude of respondents by acquiring information through the automated processing of data in the form of narrative text. This toolset involves the application of computational algorithms to process and gain understanding from data collected from product reviews, survey data, and customer feedback. Early work by Turney (2002) and Pang et al. (2002) established the legitimacy of this technique to classify comments as either negative or positive. Only recently has the value of the technique measuring customer satisfaction and product quality become evident. The increased capability of collecting customer feedback from social media tools, combined with the need to rate responses on a continuum bounded by extreme satisfaction and extreme dissatisfaction, has resulted in the development of innovative sentiment analysis techniques.

The process of sentiment analysis relies upon the application of algorithms to classify text as either positive or negative. The simplest of these algorithms is a bag of words approach. This approach provides a count of positive words and negative words in a response as calculated by comparing each word in the response against a database of preselected words classified as either of positive or negative. Classification of the response can be calculated by subtracting the negative count from the positive count, or by using Bayesian probability to estimate the probability of the entire phrase being negative or positive. In such an approach, the analysis is only as good as the database of positive and negative words used in the analysis.

Expanding upon this approach, research by Wiebe, Wilson, and Cardie (2005) contributed to an open source term index comprised of words specifically identified as subjective in nature, versus objective or factual. Additionally, this lexicon utilized a classification that differentiates the terms as 'strongly' or 'weakly' subjective. A 'strong' term is one mostly used subjectively and a 'weak' term is one used often subjectively but sometimes also objectively (Riloff & Wiebe, 2003). The results of this research is an open source lexicon of 4,175 negative terms and 2,324 positive terms that is utilized in Timothy P. Jurka's (2012) sentiment package for the open source statistical package 'R'.

Application of this technique in a methodical way to CIT data provides an opportunity for overcoming the limitations on the number of documents that can be classified and reviewed manually and the inconsistency of self-reported measures. This application also opens the possibility for identifying themes across responses for subgroups, topics, products, or service areas through visualization and statistical evaluation of sentiment

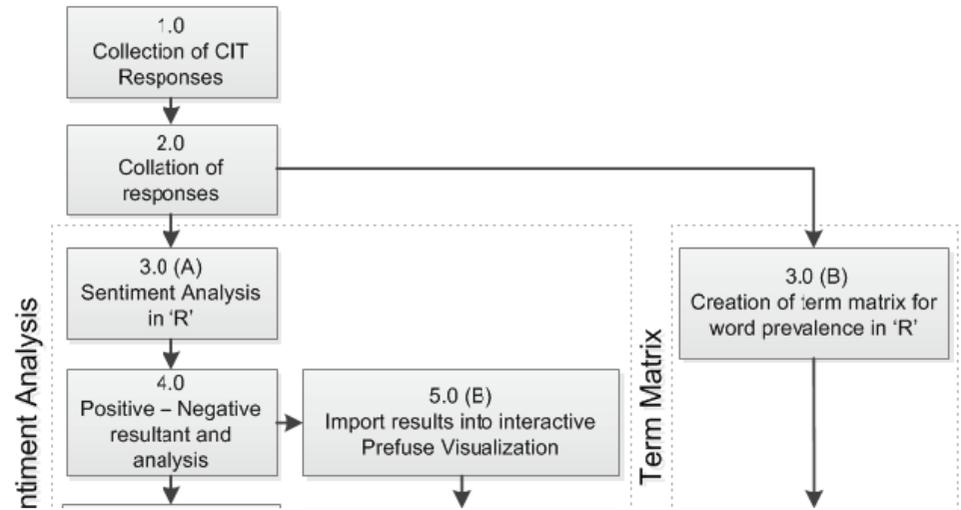
analysis ratings.

## APPLYING SENTIMENT ANALYSIS TO CIT DATA

The proposed methodology (see Figure 1) for applying sentiment analysis and analyzing resulting values begins with the collection, collation, and cleansing of CIT responses. The CIT responses are collected as normal, but are combined into a centralized database with codes for each respondent group, each question, and any other treatment value for review after generation of sentiment values. Responses should be evaluated, either at the time of collection or the time of collation for spelling errors or abbreviations of terms. This process can be completed manually or through automated features in database or data mining tools. Consideration must also be given to the language set of the data; for our analysis all collected responses were given in English.

After collection, collation and cleansing, the response matrix is used as input to the sentiment analysis package (Jurka, 2012) in the open source statistical package R. This package relies upon a Bayesian classification utilizing Janyce Wiebe's (2005) subjectivity lexicon. Applying this package results in a Bayesian classifier of positivity and negativity for each response as calculated by Equation 1 and Equation 2 utilizing user defined input values for prior, pstrong, and pweak (Jurka, 2012).

Figure 1: Proposed Methodology



$$Rating(negative) = \left\{ \sum_1^n abs \left( LN \left( (pstrong|pweak) \times \frac{Prior}{4,175} \right) \right) \right\} + abs(LN \left( \frac{4,175}{6,499} \right)) \quad (1)$$

$$Rating(positive) = \left\{ \sum_1^n abs \left( LN \left( (pstrong|pweak) \times \frac{Prior}{2,324} \right) \right) \right\} + abs \left( LN \left( \frac{2,324}{6,499} \right) \right) \quad (2)$$

As an illustrative example, applying this algorithm to the phrase 'petty fights, gossip etc' provides the classification of petty as negative and strongly subjective, fight as negative and weakly subjective, and gossip as negative and strongly subjective. This classification coupled with the calculation algorithm (prior=1.0, pstrong=.5, pweak=1.0) resulted in an overall positivity rating for this response of 1.03 and an overall negativity rating for this response of 18.50. Application of this technique to a dataset of CIT verbatim responses results in a collection of positivity and negativity classifications for each response that can be analyzed by question type and subgroups of respondents.

The resulting dataset allows for sorting of responses by negativity and positivity, but since both the negative and positive ratings are bounded by '0' as a minimum value, the distributions are not useful for statistical techniques relying upon the assumption for normality. By creating a resultant value by subtracting the negative from the positive values, this zero bounding constraint is relaxed.

Utilizing the resultant value and the group and question codes, statistical techniques such as ANOVA or regression analysis can be applied to evaluate the effects of different groups and different questions on the resultant value. Evaluation of these statistical analyses provides insight into which group and question combinations demonstrate the largest positive and negative deviation from the collective average. These results guide the researcher into particular questions, groups, or group and question combinations that demonstrate the most difference, but it does not readily provide the researcher with key terms or responses that are driving these differences.

In response to the need for identifying underlying trends as well as key terms in the dataset, a customized visualization tool was created using the Prefuse visualization framework for Java (Heer, 2005). The requirements for the tool included the ability to display all responses in a scatterplot format, the ability to easily filter responses by question type and respondent group, the ability to quickly review the actual verbatim responses by selecting a particular point value in the scatterplot, and the ability to filter displayed values by a selected word; see Figure 2. The use of this tool allows for easy exploration of the data to evaluate phrases and common themes in responses by placing responses in a grid format with the X axis representing the negativity value and the Y axis representing the positivity value. To evaluate items representing the highest amounts of negative or positive sentiment, individual points that deviate furthest from a 45-degree line passing through the origin of the grid should be investigated. Further investigation can be conducted on information-rich responses that exist furthest from the coordinate origin point that represent values that contain greater numbers of subjective terms as well as more extensive amounts of free text. These boundary condition responses typically provide a strongly subjective term that can be entered into the search query window to highlight other responses that share the term, further enriching the understanding of the underlying data.

Another analysis method for CIT data is the creation of a term matrix

comprised of frequently used terms for each question and group combination. Using Ingo Feinerer's (2012) TM package in R, responses for each question and group combination are analyzed for the most frequent word usage. The resulting matrix provides a summary of frequent word usage for each question and group combination, revealing trends in responses not typically found by reviewing each response in isolation. This analysis method, coupled with the exploratory review with the visualization tool and the statistical processing provides a composite view of not only the sentiment ratings of each combination of responses and groups, but also key terms and trends driving sentiment ratings. With an understanding of the areas of significant differences and the terms driving those ratings, areas of opportunity and strength can be identified for improvement or continuation.

## A CASE STUDY EXAMPLE

Using the proposed methodology, 650 responses from a combination of six different hospitals and three different CIT questions were examined from a dataset of a previously conducted culture study. The three questions that comprised this dataset included one asking for incidents within the hospital that supported or refuted the stated culture (Q4), one asking for incidents outside of the hospital that supported or refuted the stated culture (Q7), and one asking for barriers to effective work completion (Q16). The purpose of this analysis was to evaluate different positivity ratings among hospitals and question pairings, to explore the responses in an interactive visualization for trends, and to evaluate common word usage in responses. Ultimately this analysis was compared against the findings from a manual review conducted by several trained researchers.

The application of the sentiment analysis program in R using parameter values of (prior=1.0, pstrong=.5, pweak=1.0) resulted in a response output matrix of positive and negative values for each verbatim response. To illustrate the application of the sentiment analysis algorithm to the dataset, the following two responses are provided with subjective terms identified and coded; see Table 1.

Table 1: Example coding for two responses in the dataset

<p>"Keeping employees on system and shifting them when they perform poorly to the next department."</p>
<p>{'poorly' = negative, strongly subjective, value=9.03. Resulting calculation Positive =1.03, Negative =9.48}</p>
<p>"I appreciate the way employees will greet one another. (usually with a smile and a 'hello!') This comment includes the CEO, the doctors and our nurses. I find this encouraging!"</p>
<p>{'appreciate', 'greet', 'smile', 'encouraging' = each are positive, strongly subjective, each with a value of 8.44. Positive =34.81, Negative =.45}</p>

Collating the average resultant value of positive minus negative sentiment in matrix form provided several insights regarding the sentiment of hospitals and questions; see Table 2. The first of these insights was that responses from hospital 'G' scored much lower, 2.9, than all other hospital groups. Further, responses for Q16 resulted in a much lower average sentiment score than either Q4 or Q7. Also apparent from the matrix was a significantly lower Q7 score for hospital G than all other question and hospital combinations and a much higher Q4 score for hospital G than all other hospitals for the same question. The statistical analysis using an unbalanced ANOVA highlighted a significant difference of the average sentiment score on Q16 and a significant difference of several pairwise combinations.

Table 2: Unbalanced ANOVA Results

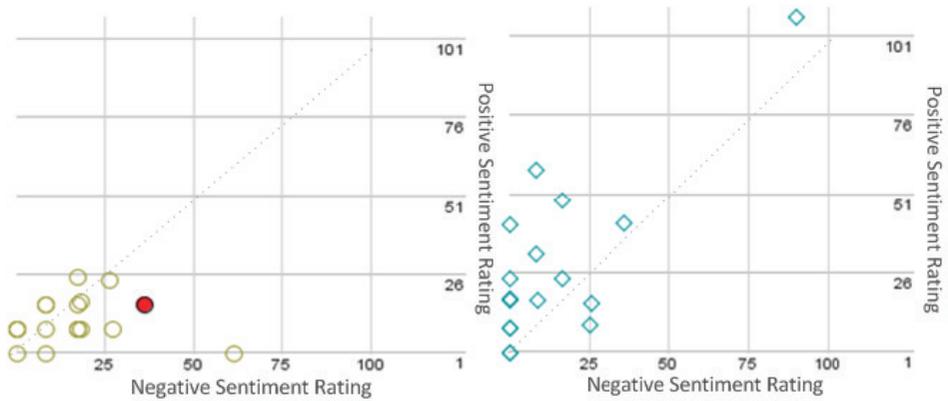
Hospitals	QUESTIONS			Tukey Kramer	
	Q16	Q4	Q7	Means	LSMeans
C	-0.6	4.3	13.7	4.9	5.8
G	-0.7	12.2	-5.1	2.9	2.1
H	3.5	6.6	4.4	5.2	4.8
K	5.2	4.3	3.4	4.2	4.3
M	1.1	5.7	12.1	5.4	6.3
P	2.4	0.5	12.1	4.9	5.0
Means	1.6*	5.9	7.6		
LSMeans	1.8**	5.6	6.8		

\*Statistically different at p=.05\*\* alpha =.0507

These findings provide a confirmation of some assumed differences, but provide little insight into specific reasons for these differences. To gain further understanding of trends within the responses, an exploratory analysis was conducted using the data visualization tool. Reviewing the scatterplot for question seven and hospital 'G' revealed many responses close to the negative 'X' axis while the graph for question seven and hospital 'C' revealed a more well balanced distribution of responses; see Figure 2. Investigating one of the more negative rated responses for the hospital 'G' for question 7 revealed the phrase 'at times they have been

rude'; see red circle in Figure 2. By entering the word 'rude' into the search box in the Prefuse tool, it was revealed that three responses out of 18 for question 7 for hospital 'G' contained a phrase using the word 'rude.' Using the statistical analysis as a starting point, the exploratory analysis allowed easy navigation to identify the outlier responses as well as identifying common terms used in these responses.

Figure 2: Hospital 'G' question 7 (left) and hospital 'C' question 7 (right)



The statistical evaluation coupled with the exploratory visualization tool allowed for quick identification of trends in sentiment among the 650 responses and provided context to the sentiment ratings by highlighting repeated terms. To further identify underlying themes, however, a review of top terms for each question and hospital combination was conducted through the creation of a term matrix. The creation of a term matrix was completed to evaluate repeated terms across individual combinations of hospitals and questions. Across the statistically lowest question, Q16, the terms 'lack', 'communication', 'time', and 'change' were often repeated. Evaluating the responses from hospital 'K' on question 16 revealed the terms 'values', 'cares', 'organization', 'department'. The different tenor of terms used by respondents from hospital 'K' and respondents from other hospitals supports the sentiment analysis rating of responses from hospital 'K' as the most positive for Q16. Further analysis of the term matrix reveals the use of terms such as 'rude', 'time', 'phone', and 'call' for the lowest rated hospital and question combination (G,Q7) versus terms of 'care', 'help', 'system' and 'person' for the highest rated (M,Q7).

Comparing the sentiment analysis results to the manual evaluation provided support for the validity of using sentiment analysis for evaluating critical incident data. In the critical incident responses, only Q7 and Q4 asked respondents to provide a self-coded rating of the positive or negative influence of the incident. When comparing the sentiment analysis to these self-reported ratings, question seven for hospital 'G' was correctly identified as the response combination with the lowest average self-reported rating. Additionally, the ordering of calculated sentiment for response and question combinations compared to ordering of self-reported ratings matched closely (+/- 2 locations) for ten of twelve of the combinations.

Further, the identification of question 16 as having the lowest sentiment is aligned to the question's intent of capturing barriers, which are typically negative items, rather than a mix of positive and negative events. The identification of hospital 'G' as having the highest positive sentiment for Q4 and the lowest positive sentiment for Q7 was supported by a finding from the manual evaluation that the unique religious affiliation and organizational structure of hospital 'G' influenced the internal view of their culture (Q4) versus the external view of culture in the healthcare system as a whole (Q7). Lastly, the evaluation of terms from the matrix aligned with the manual evaluation of describing why, as an average, the view of internal agents supporting the culture was rated lower than the influence of external agents on the culture. These elements were perceived as general rudeness, low interdepartmental service levels, aloofness of management, and lack of communication.

## RECOMMENDATIONS FOR USE AND FURTHER RESEARCH

The presented methodology allows organizations to unlock valuable understanding of customer perspectives on product or service quality. Applying sentiment analysis to large datasets requires a planned approach with careful consideration of underlying data quality, algorithm selection and data interpretation. By implementing the proposed methodology to unstructured data sets, organizations can begin to quantify sentiment ratings with a statistical basis. This transformation of unprocessed narratives into quantitative metrics allows organizations to measure current state sentiment of brands, products, or services. Measuring and comparing the current state sentiment of a brand, a product, or a service to similar offerings within the organization or offerings at competitors provides a foundation for understanding existing performance. In an effort for continuous improvement, setting benchmarks based on this comparison allows for the evaluation of the effectiveness of promotions or service enhancements. These metrics and comparisons, however, provide little benefit if they do not lead to actionable information. The translation of sentiment analysis metrics to actionable data can be achieved by the proposed exploratory analysis utilizing a term matrix and a data visualization tool. Combining the exploratory and statistical analysis in our proposed methodology allows for the application of traditional engineering management approaches of information-based decision making.

The utilization of this technique against the collected hospital CIT data and the proposed methodology provide a foundation for application to large datasets of customer opinions, survey responses, or detailed complaints. Although the same statistical rigors may not be applied in industrial applications, the ability to visualize the responses and to quickly review information-rich responses can enrich the understanding of a large dataset and release the latent value of narrative text to better understand the sentiment of customers regarding products and services.

## REFERENCES

- Feinerer, I. (2012). tm: Text Mining Package. R package version (0.5-8.1). Retrieved from [http://cran.r-project.org/bin/windows/contrib/r-release/tm\\_0.5-8.1.zip](http://cran.r-project.org/bin/windows/contrib/r-release/tm_0.5-8.1.zip)
- Feinerer, I., Hornik, K., & Meyer, D. (2008). Text mining infrastructure in R. *Journal of Statistical Software*, 25(5), 1-54.
- Flanagan, J. C. (1954). The critical incident technique. *Psychological bulletin*, 51(4), 327.
- Gremler, D. D. (2004). The critical incident technique in service research. *Journal of service research*, 7(1), 65-89.
- Heer, J., Card, S.K., & Landay J.A. (2005). "prefuse: a toolkit for interactive information visualization". In: *Proceedings of the SIGCHI conference on Human factors in computing systems: 421-430*, Portland, Oregon, USA: ACM.
- Jurka, T.P. (2012). Tools for Sentiment Analysis Package for R (v0.2). Retrieved from [http://cran.rproject.org/src/contrib/Archive/sentiment/sentiment\\_0.2.tar.gz](http://cran.rproject.org/src/contrib/Archive/sentiment/sentiment_0.2.tar.gz)
- Pang, B., Lee, L., & Vaithyanathan, S. (2002, July). Thumbs up?: sentiment classification using machine learning techniques. In: *Proceedings of the ACL- 02 conference on Empirical methods in natural language processing Volume 10* (pp. 79-86). Association for Computational Linguistics.
- R Development Core Team (2012). R: A language and environment for statistical computing. R Foundation for Statistical Computing, Vienna, Austria. ISBN 3-900051-07-0, Retrieved from <http://www.R-project.org/>.
- Riloff, E., & Wiebe, J. (2003, July). Learning extraction patterns for subjective expressions. In *Proceedings of the 2003 conference on Empirical methods in natural language processing* (pp. 105-112). Association for Computational Linguistics.
- Turney, P.D. (2002, July). Thumbs up or thumbs down?: semantic orientation applied to unsupervised classification of reviews. In: *Proceedings of the 40th Annual Meeting on Association for Computational Linguistics* (pp. 417-424). Association for Computational Linguistics.
- Wiebe, J., Wilson, T., & Cardie, C. (2005). Annotating expressions of opinions and emotions in language. *Language Resources and Evaluation*, 39(2), 165-210.

# APPLYING WELL-BEING ASSESSMENT FOR SERVICE DESIGN

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## ABSTRACT

Service design is transformative when it has a measurable, even optimizing, positive affect on human well-being. Any prospect for such felicitous outcomes, however, requires accurate assessment or measurement of well-being in and for target populations. Such assessment raises two immediate issues: conceptualization (How should well-being be conceptually operationalized?) and measurement (Given an operationalization of well-being, how can it be measured?). We begin to explore and address both questions in this paper by reviewing existing conceptualizations of well-being and then by describing the relevance of well-being measurement (and its methodologies) which are presently available.

## INTRODUCTION

There has been an upwelling of attention directed at understanding and measuring well-being. Human flourishing, a marriage of well-being and personal happiness, is being researched as a conceptual and practical compliment to myriad macro and micro economic indicators, for mental health assessments, and as policy- and decision-making tools.

A prominent example is the Commission on the Measurement of Economic Performance and Social Progress, formed by Nicholas Sarkozy during his recent term as president of France (Stiglitz et al., 2009). This working group and report are the most notable examples of reconfiguring “standard” measurements like GDP (gross domestic product) and related constructs as measures of national progress and well-being. Due in part to its provocative findings, on-going efforts are in place worldwide, including the recently concluded Commission on Development, Welfare and Quality of Life in Germany (Deutsche Bundestag, 2013).

Our specific interest in the study of well-being is occasioned by questions arising in a research initiative on service design and management, viz., How can organizations discover how best to serve and engage their stakeholders? Can the effects of organizational policy changes be estimated prospectively? If so, how? Upon investigation, it quickly became clear that it would be necessary to go beyond the “happy-productive worker” thesis (Taris & Schreurs 2009). Merely assessing stakeholder affect towards particular policies and arrangements is insufficient. We find that general well-being is increasingly recognized as a strategic indicator in a plethora of business-critical domains including health, productivity, turnover, absenteeism, customer loyalty, profitability, and overall cohesion (Diener and Chan 2010; Harter et al. 2003). Institutions are finding it in their interests to monitor and respond holistically to indicators of both happiness and well-being among their stakeholders. Benefits accrue on the positive side (e.g., empowering and encouraging top talent) as well as on the negative side (avoiding unforeseen developments and the prospect of supporting

actions to mitigate them). Given this, the application of transformative service design and management becomes more complicated (and more interesting). Two urgent questions arise: (1) How should the concept of well-being be constructed for service management and design? and (2) What data already exists fulfilling this measurement and how were the data obtained?

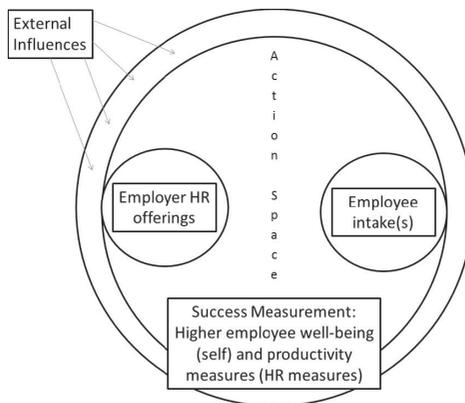
## DELINATION OF HUMAN FLOURISHING

This research addresses the psychological construct of human flourishing as a measurement of well-being. The construct is standardly understood as combining both the feeling of happiness (hedonic well-being) and the existence of conditions constituting or promoting a good life (eudaimonic well-being) (Ryan and Deci, 2001, Huppert and So, 2011). Whereas hedonism is the more thoroughly researched agenda across the social sciences, there is notable hesitation to design services and policies based on seemingly capricious assessments of personal happiness or even pleasure (Ahn et al. 2011). In contrast, operationalizing eudaimonia (the state of having eudaimonic well-being) is problematic, since the entirety of conditions conducive to human flourishing are too varied, subtle, and difficult to measure accurately. Due to these challenges, well-being is thus delineated as the multi-layered human flourishing for use in decision-making or as a consideration in service design.

## CONSTRUCTION OF ORGANIZATIONAL WELLNESS

We propose a human-centric wellness system which holistically measures hedonistic and eudaimonic flourishing for transformative institutions. Figure 2 illustrates the service environment of organizational well-being measurement as a modification of the transformative service research framework in Anderson et al. (2012). Organizationally sponsored well-being measures can help to create and maintain transformative organizations (Rosenbaum et al. 2011). This includes the interaction of personal and community assessment and environmental factors affecting well-being, information which is usually off-limits due to privacy concerns.

Figure 2: Well-being’s transformative service environment



Such a comprehensive service system builds customized reports based on user attributes which actively complement the attainment of personal, thus institutional, well-being. Strategic actors can access a wellness management dashboard giving near realtime feedback on the areas of aggregated health and wellness, with open space for recommended assistance in the fulfilment of individual and institutional well-being.

## EXPANDING THE VISION: WELLNESS AS A KEY PERFORMANCE INDICATOR

Our research program, which is underway, and our proposed system combines existing, validated measures for organizational management. We have only described the starting point. The system serves as a platform for testing alternative measures of well-being, and tracking changes in behaviour and sentiment. Thus we envision delivering a dynamic capability for institutions to monitor and track well-being, and respond with appropriate policies. The platform itself will be used to refine how well-being is measured. Increasing the wellness of individuals, and leadership capability to foster wellness organizationally co-creates the conditions necessary for healthy, happy institutions.

## REFERENCES

Ahn, S.H., Choi, Y.J., and Kim, Y., (2011), "Static Numbers to Dynamic Statistics: Designing a Policy-friendly Social Policy Indicator Network," *Social Indicators Research* doi:10.1007/s11205-011-9875-9.

Anderson, L., Ostrom, A. L., Corus, C., Fisk, R. P., Gallan, A. S., Giraldo, M., ... & Williams, J. D. (2012). "Transformative service research: An agenda for the future." *Journal of Business Research* doi:10.1016/j.jbusres.2012.08.013

Diener, E., and Chan M.Y., (2011), "Happy People Live Longer: Subjective Well-Being Contributes to Health and Longevity." *Applied Psychology: Health and Well-Being*, 3 (1) 1-43

Enquete-Kommission, (2013), "Wachstum, Wohlstand, Lebensqualität - Wege zu nachhaltigem Wirtschaften und gesellschaftlichem Fortschritt in der Sozialen Marktwirtschaft." *Deutsche Bundestag*

Harter, J.K., Schmidt, F.L. and Keyes C.L.M., (2003), "Well-being in the workplace and its relationship to business outcomes: A review of the Gallup studies." in *Flourishing: Positive psychology and the life well-lived* 205-224

Huppert, F.A., and So, T.T.C., (2011), "Flourishing across Europe: Application of a new conceptual framework for defining well-being." *Social Indicators Research*, 110 (3) 837-861

Rosenbaum, M.S., Corus C., Ostrom A.L., Anderson L., Fisk, R.P., Gallan, A.S., Giraldo, M., et al., (2011), "Conceptualisation and Aspirations of Transformative Service Research." *Journal of Research for Consumers*, 19 1-6

Stiglitz, J. E., Sen, A., & Fitoussi, J. P., (2009), "Report by the commission on the measurement of economic performance and social progress." Commission on the Measurement of Economic Performance and Social Progress, Government of France

Taris, T. W., and Schreurs P.J.G., (2009), "Well-being and organizational performance: An organizational-level test of the happy-productive worker hypothesis." *Work & Stress*, 23 (2) 120-136

# **BUSINESS MODEL INNOVATION FOR TRANSFORMATIVE SERVICES**

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## **EXTENDED ABSTRACT**

By improving consumer and societal welfare, transformative services become increasingly relevant for the low-income segment in developing countries. This huge segment is often named the 'base of the pyramid', where people live in poverty. Despite being poor, these people are willing and able to pay for transformative services, but too often they suffer from a 'poverty penalty'. Poor people pay more than rich consumers for essential transformative services. For example, people in informal settlements and slums pay 3 to 10 times more for transformative services such as water, sanitation credit, electricity, and health care. Business model innovations play a key role to offer better value for money. Innovative business models enable the creation of entirely new transformative services, which overcome the 'poverty penalty' and improve the live of the poor.

We performed qualitative research on how business model innovations drive transformative services in two steps: (i) exploratory study and (ii) in-depth study. In the exploratory study, we analyzed secondary data on business model innovations in developing countries. We investigated 27 case reports provided by the United Nations Development Programme. The exploratory study suggests that business model innovations could be conceptualized through a framework. The framework distinguishes into dynamic and operational capabilities. Dynamic and operational capabilities guided the development of the case study protocol for the main study. The main study followed a multicase research design. Data collection followed ethnographic methods, in which we worked as participant observers, who socially and physically immersed in the case study to accumulate local knowledge. The multicase research design involves altogether six cases from drinking water and sanitation services.

Our preliminary findings enrich the understanding of business model innovations for transformative services in developing countries. First, all business model innovations interact intensively with the institutions, communities and firms from the business environment. For example, the business model of the Indian small-sized firm Sarvajal uses local franchisees to sell water to their communities. Sarvajal opened its business model to involve micro-credit institutes, which help entrepreneurs to enter into the franchising agreement. Second, linking social and profit-oriented business models is a key trigger for business model innovations. Procter&Gamble innovated a more socially-oriented business model and has integrated the drinking water business into its corporate social responsibility program. Third, concerning individual skills, the Indian 'honeysucker' businesses for emptying pit latrines indicate that changing from being 'survival' towards being 'opportunity driven' entrepreneurs is one of the key success factors

for creating business model innovations.

Overall, business model innovations need to become more inclusive. More inclusive business models means that transformative services should not only meet the poor's preferences and needs, and new combinations of price and service performance. Business model innovations have to consider poor people as being an integral part of the value creation. Inclusive business model are commercially viable market-based approaches for transformative services, which benefit low-income communities and people by including them in a company's value chain on the demand side as consumers, distributors, and/or on the supply side as producers, entrepreneurs or employees in a sustainable way.

# CAUSE AND EFFECT: A REVIEW OF THREE DECADES OF EXPERIMENTAL RESEARCH IN SERVICES

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## ABSTRACT

In this review, we provide a systematic discussion of the state of experimental research in service marketing. In doing so we examine the evolution of experimental research in the service literature and provide insights on (1) the major contributions of experimental research, (2) service contexts employed by experimental researchers, (3) trends in experimental design and methodology, and (4) influential theories and frameworks employed. Finally, we identify current gaps and propose an agenda for future experimental research in services.

## INTRODUCTION

The use of experiments to uncover causal relationships has a rich history in services marketing over the last three decades. Experiments afford researchers the opportunity to study the effects of an independent variable on a dependent variable – by manipulating the independent variable and observe what effect, if any, this has on the dependent variable. The central premise is that changes in the value of the dependent variable are at least in part caused by changes in the independent variable. Though experimental research is a commonly employed empirical method in service marketing, no article, to our knowledge, has synthesized the rich body of knowledge from published experimental research in service marketing in a review.

Our review synthesizes 248 research articles (which included 450 experiments) published in 9 top-tier marketing journals since 1975, predating the first call for empirical studies in services marketing proposed by Zeithaml et al. (1985). The list of journals we retrieved articles from included, - Journal of Service Research (JSR, n=60), Journal of the Academy of Marketing Science (JAMS, n=33), Journal of Retailing (JR, n=31), Journal of Marketing (JM, n=27), Journal of Consumer Psychology (JCP, n=23), Journal of Consumer Research (JCR, n=21), Journal of Marketing Research (JMR, n=19), and International Journal for Research in Marketing (IJRM, n=15). We included articles from 1977 (the very first experimental research article in service marketing, published in JAMS) to December 2012.

## METHOD

Each of the 248 research articles was double coded with 45 variables of interest to provide a comprehensive comparison and a robust set of conclusions. The key variables of interest were clustered in 8 main topic areas:

- Development of articles (authors, number of authors, year of publication)

- Service context
- Industry and region
- Experimental design: independent/dependent variables, factors/levels, cells, type of manipulation, data structure (cross sectional vs. longitudinal), setting (lab vs. field), subject-design (between vs. within)
- Sample characteristics (sample size, sample per cell)
- Data quality: reliability and validity measures, randomization vs. quasi experiments, matching of subjects
- Data analysis: types, moderation and mediation analysis, interaction effects, effect sizes, extraneous variables / covariates

## SOME KEY TRENDS

Fifty five percent of the articles were published after 2005 (and eighty five percent after 1996), indicating the growing popularity of this research method in service marketing. This trend is also reflected in the number of experiments per article.

### Service contexts and industries

Experimental researchers employed over 16 different service industry contexts to study a wide range of research topics including the top three topic areas of service failure and recovery, marketing communication and advertising, and distribution and delivery. The areas of innovation, strategy / competition, financial performance, and technological infusion were the most underrepresented.

Restaurants, financial services, and healthcare/beauty services were the most commonly employed industry contexts in cover stories/scenarios. Less researched were utilities (gas, water, etc.), and government and social services. Close to twenty percent of the articles had multiple industry contexts. Two industries (hotels and online retailers) saw an increased occurrence in the past decade.

### Research designs and methodologies

The most commonly utilized experimental designs were 2x2 and 2x2x2 between-subjects design. The median number of independent and dependent variables studied was two. Sixty six percent of the studies used a written scenario to manipulate independent variables. Thirty two percent of the studies studied the implicated process (as evidenced by mediation analysis).

## SUMMARY

We provide a systematic discussion of the state of experimental research in service marketing and examine its evolution in order to synthesize insights on (1) the major contributions of experimental research, (2) service contexts employed by experimental researchers, (3) trends in experimental design and methodology, and (4) influential theories and frameworks employed. Our review presents a rich set of theoretical, methodological and managerial implications for academics and practitioners. First, it provides researchers with a comprehensive summary of findings and the state of practice. We believe that this helps not only current scholars but also young and aspiring scholars in service research. Second, it highlights several areas that merit further investigation through the use of experiments, thereby submitting an agenda for a potentially rich stream of research in our field. Furthermore, the multiple analyses, comparisons and conclusions we present in this review will aid managers with a deeper knowledge of causal relationships among key service variables in a broad range of industries.

# CHINESE-AMERICAN CONSUMERS: HOW DOES ACCULTURATION AFFECT THEIR RESPONSES TO SERVICE FAILURE SITUATIONS?

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## ABSTRACT

Given services' inherent characteristics, service failures are to some extent inevitable, and together with negative evaluations by customers of service provider attempts at service recovery directly result in significant losses for service firms (Smith & Bolton, 1998). Thus, increasing attention is being paid to the development of effective service recovery strategies (Sparks & McColl-Kennedy, 1998). As service failures and subsequent recovery involve social exchanges between people an understanding of the influence of culture is critical to implementing effective recovery strategies. Only recently have researchers begun to assess the impact of culture on service evaluations. For example, Becker and colleagues (1999) found that customers of different cultures evaluate service quality differently while Liu and associates (2001) pointed to consumers exhibiting different complaint behavior in hospitality settings. There is also evidence of cultural differences in perceptions of service failure and recovery (Magnini & Ford, 2004), as well as justice perceptions in complaint handling (Mattila & Patterson, 2004). Several studies have focused on Chinese customers and their reactions in service failure situations. Some studies (Liu et al., 2001, Magnini & Ford, 2004) claimed that Chinese customers have similar responses to service failures as their Western counterparts. This is in stark contrast to studies that found significant differences between Western and Asian consumers (Hoare & Butcher, 2008; 2011; Hui & Au, 2001; Lee & Sparks, 2007; Mattila & Patterson, 2004).

However, of the few studies focusing on Chinese customers in service failure situations, none has considered potential differences between Chinese who have and those who have not been exposed to another culture for a prolonged period of time, that is, no study to date has investigated the effect of acculturation on Chinese customers in a service failure context. The concept of acculturation has a long history in social and behavioral sciences (Berry, 1997). The classical definition of acculturation, advanced by Redfield, Linton, and Herskovits (1936, p.149) refers to acculturation as relating to "those phenomena which result when groups of individuals having different cultures come into continuous first-hand contact with subsequent changes in the original culture patterns of either or both groups". Given the substantial waves of migration in the 20th century, societies have become more 'culturally plural' (Berry, 1990) in that people of many cultural backgrounds have come to live together in a diverse society. Consequently, acculturation and issues of cultural maintenance (to what extent are cultural identity and characteristics considered to be important, and their maintenance strived for); and contact and participation (to what extent should they become involved in other cultural groups, or remain primarily among themselves) have become critical considerations for society in general, cultural groups at large and individuals. This

applies not only to traditional immigrant countries like the United States, Canada, and Australia, but also to numerous countries in Europe (e.g., Arends-Toth & van de Vijver, 2007). Four distinct acculturation strategies, originally proposed by Berry (1980) are commonly identified in the literature, based on the various combinations of the two key dimensions of cultural maintenance and contact and participation. They are Assimilation, Separation, Integration and Marginalization.

This research draws on acculturation theory to identify potential differences in responses between Chinese consumers who have lived for extended periods in a Western culture and those who have not. In doing so, it explores the impact of culture beyond the prevalent Western/Asian consumer differentiation. An understanding of the effect of acculturation is critical for service providers, given the increased importance of Chinese travelers for many tourist destinations and service providers around the world (e.g., Xinhua, 2011), combined with the fact that service recovery measures that have proven successful for Chinese consumers who live in Mainland China may not be suitable for Chinese who have been exposed for to vastly different cultural influences and norms when residing in a Western country.

Utilizing a between-subject experimental design, this study examines the moderating effects of acculturation modes (integration, assimilation, separation) on Chinese-Americans' responses to a service failure situation. Data was collected from 451 ethnic Chinese who resided in large metropolitan centers in the United States. Both their perceptions of and responses to a service failure situation were ascertained. The service failure situation was characterized by two variables that were manipulated at two levels: 1) Hotel Brand (Asian versus Western) and 2) ethnicity of service staff (Chinese versus Western). The setting for the service failure was a hotel setting. The study employed a 3 (acculturation) x 2 (Hotel Brand) x 2 (ethnicity of service staff) between-subject experimental design, whereby acculturation was measured, and hotel brand and ethnicity of service staff were manipulated. The dependent variables were face, word-of-mouth (online and offline), satisfaction and repeat visitation.

Results indicated significant differences among respondents, depending on the extent of their acculturation, that need to be considered by service providers targeting a multi-cultural customer base. This research is unique in that it explores the impact of culture and acculturation beyond the prevalent Western/Asian consumer differentiation. Theoretical and practical implications of study findings will be discussed.

**Keywords:** acculturation, service failure, hotels, Chinese-Americans

## REFERENCES

- Arends-Toth, J. & van de Vijver, F.J.R. (2007). Acculturation Attitudes: A Comparison of Measurement Methods. *Journal of Applied Social Psychology*, 37 (7): 1462-1488.
- Becker, C., Murrmann, S. K., Murrmann, K. F., & Cheung, G. W. (1999). A pan-cultural study of restaurant service expectations in the United States and Hong Kong. *Journal of Hospitality & Tourism Research*, 24(4), 526-538.
- Berry, J. W. (1997). Immigration, acculturation and adaptation. *Applied Psychology: An International Review*, 46, 5–68.
- Berry, J. W. (1980). Acculturation as varieties of adaptation. In A. M. Padilla (Ed.), *Acculturation: Theory, models, and some new findings* (pp. 9–26). Boulder, CO: Westview Press.
- Hoare, RJ, Butcher, K and O'Brien, D. (2011) "Understanding Chinese diners in an overseas context: A cultural perspective", *Journal of Hospitality & Tourism Research*. 35 (3), 358-380.
- Hoare, RJ & Butcher, K (2008). Do Chinese cultural values affect customer satisfaction/loyalty', *International Journal of Contemporary Hospitality Management*, 20 (2): 156 - 171.
- Hui, M. K., & Au, K. (2001). Justice perceptions of complaint-handling: A cross-cultural comparison between PRC and Canadian customers. *Journal of Business Research*, 52(2), 161-173.
- Lee, Y.L. & Sparks, B. (2007) Appraising tourism and hospitality service failure events: A Chinese perspective. *Journal of Hospitality & Tourism Research*, 31 (4): 504-529. Lerman, D., Maldonado, R. & Luna, D. (2009). A theory-based measure of acculturation: The shortened cultural life style inventory. *Journal of Business Research*, 62 (4): 399-408.
- Liu, T. C., Warden, C. A., Lee, C. H., & Huang, C. T. (2001). Fatal service failures across cultures. *Journal of Hospitality & Leisure Marketing*, 8(1/2), 93-110.
- Magnini, V. P., & Ford, J. B. (2004). Service recovery in China. *International Journal of Contemporary Hospitality Management*, 16(5), 279-286.
- Mattila, A. S., & Patterson, P. G. (2004). Service recovery and fairness perceptions in collectivist and individualist contexts. *Journal of Service Research*, 6(4), 336-346.
- Redfield, R., Linton, R., & Herskovits, M. (1936). Memorandum on the study of acculturation. *American Anthropologist*. 38. 149-152.
- Smith, A. K., & Bolton, R. N. (1998). An experimental investigation of customer reactions to service failure and recovery encounters: paradox of

peril? *Journal of Services Research*, 1, 65-81.

Sparks, B. A., & McColl-Kennedy, J. R. (1998). The application of procedural justice principles to service recovery attempts: Outcomes for customer satisfaction. *Advances in Consumer Research*, 25, 156-161.

# CO-CREATION OF VALUE IN SERVICE NETWORKS: A BUSINESS-TO-BUSINESS PROFESSIONAL SERVICE PERSPECTIVE

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## ABSTRACT

The notion that value creation occurs within the boundaries of the firm is increasingly being challenged (Normann and Ramírez, 1993; Prahalad and Ramaswamy, 2004). For example, it is now widely recognized that an organisation co-creates value together with other actors through interactions in the organisation's business network (Håkansson and Snehota, 1995; Cova and Salle, 2008; Vargo and Lusch, 2008; Gummesson and Mele, 2010). Even so, existing frameworks of the cocreation process (e.g. Payne et al., 2008; Echeverri and Skålén, 2011; Grönroos and Voima, 2012) have failed to incorporate the role of network actors in the co-creation of value, with the emphasis being mainly on business-to-consumer offerings.

Keeping this in view, this study investigates the nature of value-cocreation processes in a business-to-business professional service industry (advertising) and also addresses the role of network actors in cocreating the service offering. Advertising is a "co-creation service", where a high level of participation from the client and service provider is required (Bolton and Saxena-Iyer, 2009: p.92). Consequently, opportunities to cocreate value are high in this type of service. Moreover, studying ways to optimise inter-organisational service network collaboration is identified as a key research priority in Ostrom et al.'s (2010) award-winning article. The objectives of this research are threefold: first, exploring how and when actors (service providers, clients and third actors) engage in the cocreation of value in the service network; second, identifying the enablers for and barriers to co-creation and finally, examining the perceived effects of co-creation activities for the actors involved and investigating how any problems are managed.

Multiple triads and dyads were investigated in the advertising industry in Bangladesh, which is one of the Next-11 emerging markets (Goldman-Sachs, 2011). The focus on triads allowed the investigation of all actors in the triad in depth, otherwise, dealing with the complexity of the whole network becomes difficult (Choi and Wu, 2009). The use of a multiple case study design enabled elicitation of rich data through a variety of research techniques, allowing cross-validation (Creswell, 1998). Four pilot interviews were conducted in the early stages of the project to assist in generating new themes and refine the semi-structured interview guide for use in subsequent stages. After the pilot stage, eight triadic case studies and ten dyadic case studies were carried out. Within the case studies, 63 semi-structured in-depth interviews were held with managers from client companies, their advertising agencies and third actors (e.g. media planning agencies and activation agencies). Documents (emails, briefs, and meeting minutes) relevant to each case were collected. Numerous

site visits with managers allowed opportunities to observe the work environment of employees and their proximity to co-workers and supervisors and to get a feel of the corporate culture. Secondary data from company web pages and news articles on market performance and industry awards also added rich information to the ongoing case investigation.

Initial findings reveal that co-creation of value within the business-tobusinessprofessional service network appears to occur in three overlapping stages: planning, execution and evaluation. In addition, cocreation is preferred in some stages of the service while in other stages agencies/third actors prefer to work independently. Several enablers and barriers to co-creation activities were identified, for example, sharing of research on project effectiveness and senior management interference respectively. Cognitive abrasion (Verbeke et al., 2008), the willingness to openly discuss, debate, and argue, seems to be crucial in value cocreation activities. Further, the client plays a critical role in managing the supplier-supplier relationship within the service triad. Analysis of the case studies is still in progress.

The findings from this study provide a much-needed empirical view of cocreation, zooming in on the key activities involved in the co-creation process. Unlike previous studies, it incorporates not only the views of clients and service providers, but also third actors' views on how to manage the co-creation of value.

## REFERENCES

- Bolton, R. and Saxena-Iyer, S. (2009), "Interactive Services: A Framework, Synthesis and Research Directions", *Journal of Interactive Marketing*, 23(1), 91-104.
- Choi, T. Y. and Wu, Z. (2009), "Taking the Leap from Dyads to Triads: Buyer-Supplier Relationships in Supply Networks", *Journal of Purchasing and Supply Management*, 15(4), 263-266.
- Cova, B. and Salle, R. (2008), "Marketing Solutions in Accordance with the S-D Logic: Co-Creating Value with Customer Network Actors", *Industrial Marketing Management*, 37(3), 270-277.
- Creswell, J. W. (1998), *Qualitative Inquiry and Research Design: Choosing among Five Traditions*, Sage: Thousand Oaks.
- Echeverri, P. and Skålén, P. (2011), "Co-Creation and Co-Destruction: A Practice-Theory Based Study of Interactive Value Formation", *Marketing Theory*, 11(3), 351-373.
- Goldman-Sachs, (2011), "Introducing "Growth Markets": A Perspective from Goldman Sachs Asset Management", Available at <<http://www.goldmansachs.com/our-thinking/global-economicoutlook/intro-growth-markets/index.html>> (Accessed May 11, 2012).
- Grönroos, C. and Voima, P. (2012), "Critical Service Logic: Making Sense

of Value Creation and Co-Creation”, *Journal of the Academy of Marketing Science*, 1-18.

Gummesson, E. and Mele, C. (2010), “Marketing as Value Co-Creation through Network Interaction and Resource Integration”, *Journal of Business Market Management*, 4(4), 181-198.

Håkansson, H. and Snehota, I. (Eds.) (1995), *Developing Relationships in Business Networks*, London, Routledge.

Normann, R. and Ramírez, R. (1993), “From Value Chain to Value Constellation: Designing Interactive Strategy”, *Harvard Business Review*, 71(4), 65-77.

Ostrom, A. L., Bitner, M. J., Brown, S. W., Burkhard, K. A., Goul, M., Smith-Daniels, V., Demirkan, H. and Rabinovich, E. (2010), “Moving Forward and Making a Difference: Research Priorities for the Science of Service”, *Journal of Service Research*, 13(1), 4-36.

Payne, A., Storbacka, K. and Frow, P. (2008), “Managing the Co-Creation of Value”, *Journal of the Academy of Marketing Science*, 36(1), 83-96.

Prahalad, C. and Ramaswamy, V. (2004), “Co-Creation Experiences: The Next Practice in Value Creation”, *Journal of Interactive Marketing*, 18(3), 5-14.

Vargo, S. and Lusch, R. (2008), “Service-Dominant Logic: Continuing the Evolution”, *Journal of the Academy of Marketing Science*, 36(1), 1-10.

Verbeke, W., Franses, P. H., Blanc, A. and Van Ruiten, N. (2008), “Finding the Keys to Creativity in Ad Agencies: Using Climate, Dispersion, and Size to Examine Award Performance”, *Journal of Advertising*, 37(4), 121-130.

## COMMUNITIES AS RESOURCE-INTEGRATING ACTORS

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### ABSTRACT

Communities, online as well as offline, are well-documented phenomena and have been empirically associated with the most disparate issues, ranging from brands and special interests to the IPO of Facebook and political terrorist cells. In service literature, communities are discussed linked to concepts such as value configuration space (Vargo 2008); value alignment mechanism (Frow and Payne 2011), opportunity space (Normann 2001); and platform (Cova et al. 2011), to name a few. A common theme in service literature is to view the community as a way of facilitating value creation between two or more resource integrating actors, such a firm and its customers – or in between community members.

Still, there are several empirical examples where the community has taken on an agenda of “its own”, almost like an NGO, a trade union, or sometimes even a competing brand. Prime examples can be found in, for instance, the video game industry and provider-driven communities such as those related to Blizzard and Paradox. Even though these communities are instigated by the firms, their agendas have, on occasions, forced the firms to redraw or change their behavior and plans. Hence, there is clearly a need to enhance the conceptual underpinnings of a community within service research. The aim of this paper is therefore to theoretically grasp the community as an entity, and to recognize its impact on value creation for all involved resource integrating actors.

In order to conceptualize a community and to be able to further enhance the understanding of it as an entity, Normann’s (2001) two concepts of liquidity and density are used as a foundation. These two concepts provide end-points where liquidity indicates that the community members are loosely coupled with varying agendas (e.g., Facebook) and density is associated with a closely integrated community with one single or a few common or related interests (e.g., the Paradox community). The operationalization of the two concepts is conducted utilizing practice theory (cf. Schau et al. 2009; Escheverri and Skålén 2011). It has been suggested that practices can be described sharing a common “anatomy” (Schatzki 1996; Warde 2005; Schau et al. 2009) comprised of three elements: procedures (explicit rules, principles, instructions), understandings (knowledge of what to say and do, skills) and engagements (emotionally laden ends and purposes, insofar as people are committed to them).

The paper concludes that communities sporting distinctive practices (i.e., that are high in density) are more multifaceted than solely being facilitators of value creation to the involved resource integrating actors; and consequently they require to be conceptualized as resource integrating actors of their own.

## REFERENCES

- Cova, B.; Dalli, D. and Zwick, D., (2011), "Critical perspectives on consumers' role as 'producers': Broadening the debate on value cocreation in marketing processes." *Marketing Theory*, 11 (3) 231-241.
- Echeverri, P. and Skålén, P., (2011), "Co-creation and co-destruction: A practice-theory based study of interactive value formation." *Marketing Theory*, 11 (3) 351-373.
- Frow, P. and Payne, A., (2011), "A stakeholder perspective of the value proposition concept." *European Journal of Marketing*, 45 (1/2) 223–240.
- Normann, R., (2001), *Reframing Business: When the Map Changes the Landscape*. Wiley, Chichester, England.
- Schatzki, T. R., (1996), *Social Practices: A Wittgensteinian Approach to Human Activity and the Social*. Cambridge University Press, Cambridge, England.
- Schau, H. J., Muñiz, A. J. and Arnould E. J., (2009), "How Brand Community Practices Create value." *Journal of Marketing*, 73 (5) 30-51.
- Vargo, S. L., (2008), "Customer integration and value creation: paradigmatic traps and perspectives." *Journal of Service Research*, 11 (2) 211-15.
- Warde, A., (2005), "Consumption and Theories of Practice." *Journal of Consumer Culture*, 5 (2) 131-153.

# COMPLEXITY OF INTERNAL SERVICES AND INTERNAL SERVICE QUALITY

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## ABSTRACT

This paper deals with the complexity of services provided within an organization and its impact on internal service quality. Therefore, this study empirically conceptualizes the construct complexity of internal services and analyzes whether complexity of internal services has a nonlinear effect on internal service quality. The authors provide strong empirical support for a curvilinear, U-shaped effect of the complexity of internal services on internal service quality by using structural equation modelling. Practical implications of the results and limitations of the study are also discussed.

## INTRODUCTION

Complexity has become a key construct in research and practice. Although technological innovations make many products and services easier to perform, their effects have made other performances more complex and complicated than ever before (Rescher 1998). A coin has two sides. Although we are taking advantage of various automatic and computerized tools when performing products and services, it is undeniable that many products and services are becoming more and more complex (Liu and Li 2012). Consequently, research on complexity and its interrelation with employer performance is always indispensable.

In this context, complexity can be seen as a central characteristic of the service provision process. Since internal services are an integral part of the service provision process, our study deals with the complexity of internal services. Thereby, a multitude of internal services consists of different partial performances which are rendered concertedly by several employees. The complexity of internal services results from the number of employees involved in the service provision process, the number of partial services provided, as well as the variability and interrelations of all elements stated above (Liu and Li 2012). Thus, regarding research on complexity of internal services, several constitutive and challenging questions can be raised (Liu and Li 2012): What is complexity? Are there objective criteria to determine what complexity is? These two questions involve the nature and content of complexity. Unfortunately, these critical questions have been disregarded in the existing research on complexity of internal services, up to now. Although complexity of internal services is expected to be a key determinant of a company's pre-economic success factors (e.g. internal service quality), existing research on complexity of internal services has been criticized for its conceptual problems (Wood 1986): there is no universally accepted conceptualization for the complexity of internal services. This leads to our first research question:

### *How can complexity of internal services be conceptualized?*

Although it is clear that internal services often show a high degree of complexity, the existing literature provides very different results concerning the effects of complex internal services. Some studies show a negative influence of complex internal services on the process of service provision (e.g. Chan, Tan and Wei. 1999). Other studies, on the contrary, identify a positive effect of a complex internal service provision process on employer performance (e.g. Man and Lam 2003; Park, Baker and Lee 2008). The work of Homburg and Kebbel (2001) is the only study which provides differentiated results. It deals with the interrelation between the customers' perception regarding complexity of services, and the perceived service quality. The authors demonstrate that the number of services provided has a positive effect on the customers' perception of service quality, while heterogeneity of the service elements exerts a negative impact. In order to explain or integrate the contradictory results described above, we argue that the complexity of internal services shows a nonlinear relationship to the internal service quality. We decided to choose internal service quality as the key effect of complexity of internal services, since the construct internal service quality includes the entire process of service provision. Consequently, the collaboration of different business units and the performance of internal services are also included. Correspondingly, our second research question is:

### *How much complexity of internal services supports the internal service quality?*

The article is organized as follows. In order to answer the research questions, a theoretical conceptualization of the construct complexity of internal services and of its impact on the internal service quality is accomplished. Subsequently, an empirical analysis with German companies is conducted. The design of the empirical study is split into three parts. First, the construct complexity of internal services is empirically conceptualized. Then, a typology of the complexity of internal services is created within the framework of a latent class analysis. Finally, the impact of the complexity of internal services on internal service quality is measured in a causal analytical approach. The article closes with a discussion of research-related and managerial implications.

## CONCEPTUAL BACKGROUND AND HYPOTHESIS DEVELOPEMENT

### Conceptualization of complexity of internal services

We define the complexity of internal services as the perceived multitude of different service elements, which are provided as parts of the overall process of service provision, involving several employees and organizational units within a company. It consists of interrelated activities, processes and methods, which change over time. This definition of the complexity of internal services goes together with definitions of the internal service literature (e.g. Stauss 1995) and complexity research (e.g. Wood 1986; Campbell 1988) and is, therefore, consistent with the existing service research.

When looking at complexity of internal services it is necessary to distinguish between a subjective and an objective complexity (Homburg and Kebbel 2001). Internal service provision can be objectively complex, since different internal suppliers render a multitude of heterogeneous partial services. However, the customer subjectively may not perceive it as complex. Since our study deals with the influence of perceived complexity on the perception of internal service quality, we will concentrate on subjective complexity.

By means of the three phases of service creation (input dimension, processing dimension and output dimension), it is possible to conceptualize the complexity of internal services (Bonner 1994). When looking at the input dimension, one specific feature of complexity of internal services can be identified: The manner and quantity of the internal supplier's services that will actually be demanded by the internal customers, is not at all or only restrictedly known a priori. Thus, in order to be able to respond effectively to different internal customer demands at a specific point in time, it is necessary to provide a relatively broad range of potential factors (diversity) in an adequate quantity (multiplicity). Furthermore it is indispensable to apply potential factors which are able to react flexibly to the different requirements in service provision (dynamics). When regarding the processing dimension, it can be found that a multitude of heterogeneous partial services correlates with both time and content. Consequently, we conclude that a mutual interdependence between internal customers and suppliers exists. The aim of the output dimension is to achieve a valuable effect on people and their objects. The overall performance results from the complexity of internal services, and is a huge variety and multitude of interrelating internal partial services with interrelationships that are permanently changing. Here, the conceptualized characteristics correspond to the characteristics of complexity, which were already confirmed in the existing literature (Wood 1986). To ground and enhance our initial conceptualization of the complexity of internal services, we conducted sixteen in-depth interviews with managing practitioners across several business units and industries. These interviews helped to confirm and clarify the four dimensions of the complexity of internal services. In sum, the complexity of internal services is distinguished by four central characteristics. While the characteristic multiplicity expresses the amount of elements and relations within internal services, the characteristic diversity refers to the variety of these elements and the relations within that amount (Campbell 1988). Consequently, those two dimensions of complexity cover the multitude and variety of individual partial services, and the amount of employees involved in the process. The degree of variability results from the dynamics of the interdependences within the system, and from the amount of possible different states and behavioral options of the elements within the system (Liu and Li 2012). Hence, within the framework of internal services, the dynamics refer to both variability of the individual partial services and the employees' behavioral options. The fourth characteristic mutual interdependence is related to the interdependences of the elements within the system, that is, the interrelation between individual partial services and employees. Thus, we hypothesize the following:

H1: The complexity of internal services consists of the four dimensions multiplicity, diversity, mutual interdependence and dynamics.

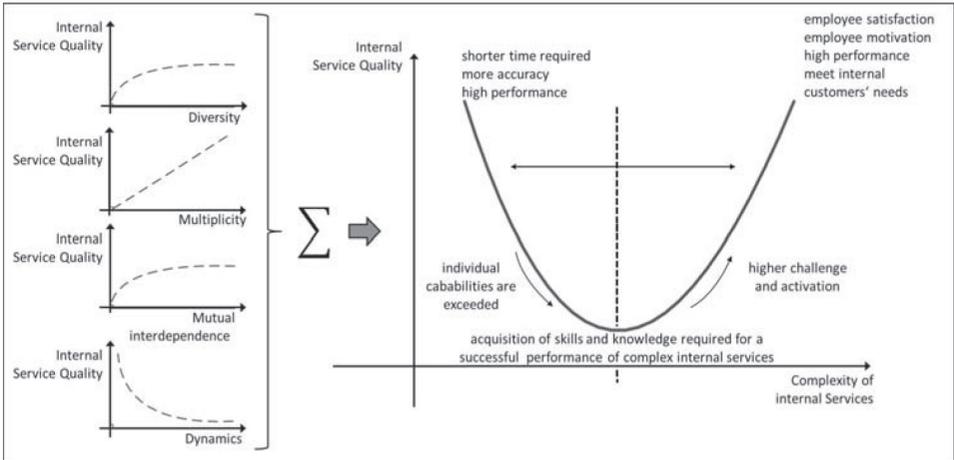
Conceptualization of the non-linear effect of complexity of internal services on internal service quality

We argue that complexity of internal services shows a non-linear relationship to internal service quality. Our assumption is based on the fact that

the four dimensions of complexity of internal services affect internal service quality in different ways. Thereby, we assume diminishing benefits of the diversity of internal service elements on the internal service quality. This is because a low or medium level of diversity entails flexibility and individuality and therefore a high internal service quality, but a high heterogeneity of the service elements shows diminishing benefits, since it causes uncertainty and a high perceived risk (Homburg and Keibel 2001). This logic also could be applied to the dimension of mutual interdependence of the complexity of internal services. Taking into account the work of Homburg and Keibel (2001), we further assume that the multiplicity of internal part-services has a positive impact on the internal service quality. Finally, we presume that the dynamics of part-services reduces the internal service quality, since too much variation in the internal service provision process requires too much time and resources (Chan, Tan and Wei 1999). Taken together, these results indicate that the relationship between the complexity of internal services and the internal service quality is shaped in the form of an U (see Figure 1).

Our assumption can also be derived from the existing complexity research. Here, a low complexity of internal services is positive for the internal service quality in several respects. In particular, existing studies show that a low complexity in the service provision process causes more accuracy (Chan, Tan and Wei 1999), requires less time (Chan, Tan and Wei 1999) and leads to a high employee performance (Edosomwan 1986). If the complexity of internal services increases and exceeds a certain degree, and therefore the employees' skills and capabilities, it leads to a lack of productivity (Schwab and Cummings 1976). This lack of productivity can be overcome by the acquisition of skills and knowledge required for a successful performance of complex internal services (Schmidt, Hunter and Outerbridge 1986). Wood (1986) suggests that if the required skills and knowledge for complex internal services exist in a company, increasing complexity of internal services actively encourages the employees and thus increases their productivity. In this context, several studies show that a higher complexity in the internal service provision process leads to higher employee satisfaction (Park, Baker and Lee 2008) and employee motivation (Maynard and Hakel 1997). Furthermore, complexity of internal services entails more flexibility and allows performing internal services more individually in order to meet internal customers' needs. Accordingly, the existing complexity research indicates that the relationship between the complexity of internal services and internal service quality is U-shaped (see Figure 1).

Figure 1: The effects of the complexity of internal services



All this leads to the assumption that there is a non-linear, U-shaped relationship between the complexity of internal services and internal service

quality. In other words, it is expected that internal service quality is lowest when the complexity of internal services is on a medium level; whereas it turns out to be higher when complexity is on a very low and very high level. These results lead to the following hypotheses H2:

H2: The relationship between the complexity of internal services and internal service quality is non-linear (U-shaped).

## METHODOLOGY AND RESULTS

### Data Collection

The empirical assessment of the theoretical model of the complexity of internal services was conducted in collaboration with large German companies. When selecting the companies, particular attention was paid on

covering a wide range of organizations. In the time period of two months, we surveyed 72 industrial companies, 34 consumer goods companies and 52 service enterprises. We obtained usable responses from 134 employees (a response rate of 41.5 per cent). The composition of the sample shows that 74.6 per cent of the employees questioned are older than 30 years and 67.6 per cent have worked for their companies for more than 5 years. Thus it can be concluded that the test persons provide sufficient significance for the present analysis of the complexity of internal services.

### Empirical conceptualization of the complexity of internal services

For item generation, we modified existing scales. Only a few items,

developed from the in-depth interviews, were new. We further refined the measures on the basis of a pretest. The relevant items for determining the structural equation model are measured using a seven point Likerttype scale anchored by 1 = “strongly disagree” and 7 = “strongly agree”. Generally, the items come from two sources. First, we modified and enhanced items from Homburg and Keibel (2001) in order to measure the two dimensions diversity and multiplicity. Second, we used a scale related to Staples and Webster (2008) to measure mutual interdependence. In order to measure the dynamics, the test persons assessed three new items that asked them to evaluate the change of diversity, multiplicity and mutual interdependence. We assessed the reliability and validity of the construct complexity of internal services with exploratory and confirmatory factor analyses. This included a higher-order factor analysis, with the complexity of internal services as a second-order construct and its four dimensions as first-order constructs. Overall, the measures of the exploratory and confirmatory factor analyses exhibit good psychometric properties (see Table 1).

Table1: psychometric criteria of the confirmatory factor analysis

Construct	Factor	CR	AVE	$\chi^2/df$	CFI	TLI	RMSEA
Com- plexity of internal services	Multiplicity	0.905	0.760	1.48	0.96	0.95	0.06
	Diversity	0.877	0.640				
	Mutual inter- dependence	0.860	0.605				
	Dynamics	0.889	0.729				

In particular, the values for the cronbach’s alpha and the composite reliability exceed the marginal value of 0.7, respectively 0.6. The marginal value of 0.5 for the average variance extracted (AVE) is reached by all factors. Finally, the constructs are analyzed for discriminant validity. According to Fornell and Larcker (1981), any pair of constructs exhibits discriminant validity if the average item variance extracted through both constructs is higher than their contribution to explaining the other construct (assessed with squared correlations). All constructs meet this criterion.

### Latent Class Analysis

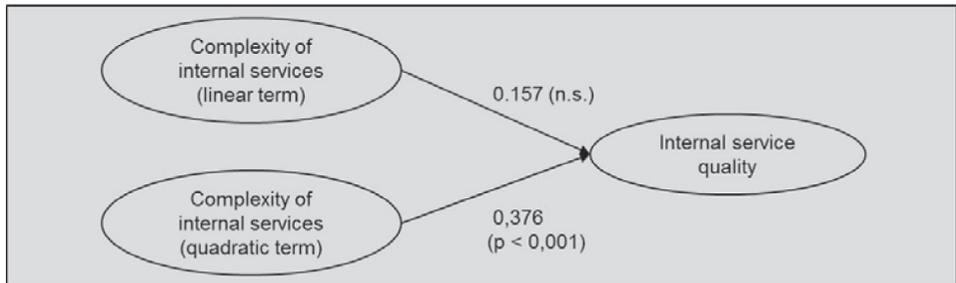
In order to identify different kinds of the complexity of internal services, a Latent Class Analysis was conducted. The basic assumption of the Latent Class Analysis implies that any internal service belongs to one of several subgroups. These subgroups, however, are not directly observable. In total, we identified three types of complex internal services. The first and smallest class (n = 31) can be called standardized internal services, which does not show any complexity characteristics. The second, slightly larger class (n = 38) can be characterized as a class of partially complex internal services, since the services consist of a multitude of different partial services. The third and largest class (n = 64) can be labeled as complex internal services, since it fulfills all four complexity characteristics.

The results of the Latent Class Analysis show that the majority of internal services are complex. Therefore, complexity of internal services plays an essential role in the internal service provision process.

### Results of structural equation modeling

We employed structural equation modeling in order to test our second hypothesis using Mplus 6.0. To keep the number of parameters in the model at a manageable level while preserving the multifaceted nature of the complexity of internal services construct, we measured it through item parcels (Bagozzi and Edwards 1998). To analyze the potential non-linear, U-shaped effect of complexity of internal services on internal service quality (H2), we included the squared term of the complexity of internal services in our model by using the unconstrained model specification that Marsh, Wen and Hau (2006) propose, to measure non-linear terms. The assessment of the specified model for measuring the influence of the complexity of internal services on internal service quality is generally positive. The fit of the confirmatory factor analysis model containing all constructs is satisfactory ( $\chi^2/df = 2.13$ ; CFI = 0.92; TLI = 0.90; RMSEA = 0.10; SRMR = 0.10). The results of the empirical study (see Figure 2) show that our second postulated hypothesis H2 can be verified.

Figure 2: Results



It is demonstrated that complexity of internal services has a non-linear, Ushaped effect on internal service quality. Thus it can be concluded that an increase in complexity of internal services on a medium level results in a low internal service quality, while a very low and very high level of complexity results in a high internal service quality. Hence, it is shown that standardized internal services generate a high internal service quality because the requirements and the way of performance of these standardized services are quite clear and mistakes can be avoided. Furthermore it can be demonstrated that a high complexity of internal services induces a higher flexibility to meet internal customers' needs and higher quality standards, and leads to a higher internal customer satisfaction.

### CONCLUSION

The increasing interest of research and practice in the analysis of internal services confirms the present study's relevance. Research gaps particularly

exist when it comes to conceptualizing and operationalizing the construct complexity of internal services as well as to analyzing the correlation between the complexity of internal services and the internal service quality. The present study addresses these research gaps by showing that the majority of internal services are complex and therefore the complexity of internal services plays an essential role in the internal service provision process. Furthermore, it can be verified that complexity of internal services has a non-linear, U-shaped effect on internal service quality.

From a practitioner's perspective, the findings suggest, on the basis of Porter (1980), two strategies: internal cost orientation and internal service orientation. The strategy internal cost orientation should be chosen, when the process of internal service provision shows a low level of complexity. In this context, standardized internal services, with clear requirements and a distinct way of performance should be offered. Thereby costs could be reduced and mistakes avoided. The second strategy, internal service orientation, implies the offer of complex internal services. This way, a higher flexibility is provided to meet internal customers' needs. Moreover, higher quality standards are met, resulting in a higher internal customer satisfaction. Since the majority of internal services is complex (see the results of the Latent Class Analysis) managers should choose the second strategy of internal service orientation. Consequently, managers ought to develop a better understanding of the complexity of internal services to improve internal service quality. The objective of complexity management should be to satisfy the complexity required by internal customers. In particular, the input and processes should be equipped with enough flexibility to allow the creation of various results in order to meet internal customers' needs. Consequently, the employees' competence to deal with the various conditions of internal service processing is to be seen as a central task of the complexity management.

At least two limitations of this study should be considered; they also provide avenues for further research. First, a dual approach, combining the internal customer perspective with the internal supplier perspective might be useful for generating deeper insights in order to better understand the complexity of internal services. Second, all our variables are measured at the same time. Hence, we do not cover the long-term effects of the complexity of internal services. Hence, further research could complement this study by analyzing its hypotheses using longitudinal data.

## REFERENCES

Bagozzi, R.P. and Edwards, J.R., (1998), "A General Approach for Representing Constructs in Organizational Research", *Organizational Research Methods*, 1 (1) 4-87.

Bonner, S.E., (1994), "A Model of the Effects of Audit Task Complexity", *Accounting Organizations and Society*, 19 (3) 213-234.

Campbell, D.J., (1988), "Task Complexity: A Review and Analysis", *Academy of Management Review*, 13 (1) 40-52.

- Chan, H.C., Tan, B. and Wei, K., (1999), "Three important determinants of user performance for database retrieval", *International Journal of Human-Computer Studies*, 51 (5) 895-918.
- Edosomwan, J.A., (1986), "The role of ergonomics in improving productivity and job satisfaction in computer-aided assembly tasks", *International Industrial Engineering Conference Proceedings*, Dallas, Texas, May 11-14, 378-381.
- Fornell, C. and Larcker, D.F., (1981), "Evaluation Structural Equation Models with Unobservable Variables and Measurement Error", *Journal of Marketing Research*, 18 (1) 39-50.
- Homburg, C. and Kebbel, P., (2001), "Komplexität als Determinante der Qualitätswahrnehmung von Dienstleistungen", *Zeitschrift für betriebswirtschaftliche Forschung*, 53 (7) 478-499.
- Liu, P. and Li, Z., (2012), "Task Complexity: A review and conceptualization framework", *International Journal of Industrial Ergonomics*, 42 (6) 553-568.
- Man, D.C. and Lam, S.S.K., (2003), "The effects of job complexity and autonomy on cohesiveness in collectivistic and individualistic work groups: a cross-cultural analysis", *Journal of Organizational Behavior*, 24(8) 979-1001.
- Marsh, H.W., Wen, Z. and Hau, K.-T., (2006), "Structural Equation Models of Latent Interaction and Quadratic Effects, *Structural Equation Modeling: A Second Course*", Hancock, G. and Mueller, R.O., (eds.), Greenwich, England, 225-265.
- Maynard, D. C. and Hakel, M. D., (1997), "Effects of Objective and Subjective Task Complexity on Performance", *Human Performance*, 10 (4) 303-330.
- Park, H.S., Baker, C. and Lee, D.W., (2008), "Need for Cognition, Task Complexity, and Job Satisfaction", *Journal of Management in Engineering*, 24 (2) 111-117.
- Porter, M.E., (1980), "Competitive strategy", New York: Free Press.
- Rescher, N., (1998), "Complexity: a Philosophical Overview", Transaction Publishers, New Brunswick, NJ, USA.
- Schmidt, F.L., Hunter, J.E., and Outerbridge, A.N., (1986), "Impact of job experience and ability on job knowledge, work sample performance, and supervisory ratings of job performance", *Journal of Applied Psychology*, 71 (3) 432-439.
- Schwab, D.P. and Cummings, L.L., (1976), "A theoretical analysis of the impact of task scope on employee performance", *Academy of Management Review*, 1 (2) 23-35.

Stauss, B., (1995), "Internal services: Classification and quality management", *International Journal of Service Industry Management*, 6 (2) 62-78.

Wood, R.E., (1986), "Task complexity: Definition of the construct", *Organizational Behavior and Human Decision Processes*, 37 (1) 60-82.

# CONCIERGE OPTION FOR A SERVICE OFFERING : DESIGN, ANALYSIS, IMPACT, AND ADOPTION

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## ABSTRACT

Service component of the private (non-governmental) U.S. economy, including everything from financial services to healthcare, has steadily increased in the past four decades and it currently accounts for 47% of the GDP. At the same time, only 24% of the GDP is centered on products with 16% being non-durable goods (e.g. food, clothing, fuel) and 7% being durable goods (e.g. autos, furniture). This transition from goods to services did not happen independently of each other, but rather in conjunction with each other. Virtually every product is now complemented with a significant service component thus leading to a service-product continuum in place of the traditional service-product dichotomy.

Queues, which form when there is a temporary mismatch between demand and supply, are an integral part of most service offerings. For a typical American consumer, waiting in the emergency room or a doctor's office, waiting at a store checkout, or waiting to renew a driver's license is a common occurrence. It is estimated that an average American spends over two years of their lifetime waiting in queues and it is not hard to imagine that the cost associated with this waiting is not insignificant. While studying queues and their performance, there is a need for a fundamental shift from focusing on waiting time to emphasizing waiting cost all the while accounting for the heterogeneity in customer waiting costs.

This can be done by introducing a concierge (high-priority) option in a service offering, the most visible example of which is Concierge Medicine (e.g. [www.mdvip.com](http://www.mdvip.com)), which is getting a lot of attention not only because of its popularity, but also because of its seemingly controversial nature. While concierge medicine is grabbing a lot of headlines, such schemes are popular in other service industries (e.g. household services, immigration services, amusement parks, financial services) as well. Benjamin Franklin Plumbing, a nationally branded franchising organization offers The Ben Franklin Society program, which, for a relatively low cost (about ten dollars per month), allows the member to move to the top of their appointment book when the need for a plumbing service arises. SeaWorld, a popular water based amusement park, offers the "Quick Queue" program, which at a cost of about 20 to 40 dollars depending on the day, gives the patron front-of-line admission at its most popular rides. USCIS, the American immigration authority expedites, at a cost of 1000 dollars, the processing of H1B (work visa) applications. In order to meet the service requirements, all these services limit (e.g. Benjamin Franklin limits the membership to 22% of their customer base) the number of customers that sign up for the concierge option.

While evaluating the prospect of introducing a concierge option in a service offering, the following design questions need to be addressed:

1. What are the system conditions (customer waiting costs, system utilization, etc.) that make concierge option attractive?
2. How much should the service provider charge for the option?
3. Should the provider restrict the number of customers that sign up for this option?

Our analysis is divided into two different settings, depending on how the customer reacts to the implementation of a concierge option. The first one, which we call the No Abandonment case, is one in which the customer will not leave the service even if his/her costs are higher under the concierge setting. This would be representative of the typical primary doctor's office in the U.S. healthcare system, or the H1B visa processing service of USCIS. The second setting, which we call the Abandonment case, the customers are allowed to leave the system (we do not model where they go) if they are not happy with the concierge option. This would be typical of services such as a barber, a restaurant, or an amusement park.

We first show that under No Abandonment, if the service provider wishes to ensure that all the customers are no worse-off, then the service provider cannot make any additional revenue from offering the concierge option. On the other hand, if the service provider wants to ensure that the customers are no worse off only in the average sense, then she can increase her profits by about 20-100%. Under the Abandonment case, it is imperative that all the remaining customers in the system are no worse off under the concierge option. Even so, the service provider can significantly increase her revenues. In all these cases, we show that there is a wide range of parameter settings in which, the customers and the service provider are no worse-off and that the total system cost is significantly reduced. By comparing this to the minimum possible system cost, we show that transition to the concierge option eliminates about 73% of the inefficiency in the system.

In order to test whether these analytical results are valid in real-world settings, we collected and analyzed the data associated with adoption of MDVIP service across the country. We show that concierge medicine is adopted in areas (categorized by zip codes) where the median income is larger; the population is older; and income has a larger variance. Our analysis showed that by providing the concierge option in these locations, the service providers are able to increase the revenues by about 9%.

# CONSUMER ENGAGEMENT IN ONLINE COMMUNITIES

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## ABSTRACT

The popularity of online communities among consumers is growing. Online communities gather people with focused needs and interests around an organizational practice, such as brands, services, or products, or a common field of interest. The purpose of this paper is to describe consumer engagement by exploring factors that either strengthen or weaken consumer's engagement with online communities of interest. The paper presents five factors that weaken and ten factors that strengthen consumers' relationship engagement with online communities of interest. The qualitative approach provides an overview of members' main benefits and drawbacks of online communities, and how online communities of interest are integrated in the daily lives.

## INTRODUCTION

Online communities gather people with focused needs and interests around an organizational practice, such as brands, services, or products, or a common field of interest (Dubé, Bourhis & Jacobs 2006). Many studies on online communities have focused on brand communities, i.e. communities centred on a brand (McAlexander, Schouten & Koenig 2002, Ouwersloot & Odekerken-Schröder 2008, Muñiz & O'Guinn 2001). In contrast, communities of interest, i.e. communities centred on members' interest in different life themes, such as hobbies, practices, or activities, (Close, Finney, Lacey & Sneath 2006, de Burgh-Woodman & Brace-Govan 2007) have received less attention. Much emphasis is on how brand communities emerge, such as word-of-mouth, shared rituals and traditions, and marketing (McAlexander, Schouten & Koenig 2002), or consumer motivations for joining brand communities, such as quality reassurance, brand involvement, joint consumption opportunity, and brand's symbolic function (Ouwersloot & Odekerken-Schröder 2008). Despite the current emphasis on brand communities, studies have explored consumer motivations for joining or using online communities, attributes that describe how the virtual community affects the social context, and how the virtual community is transforming society (Raacke & Bonds-Raacke 2008, Lin 2006, Romm, Pliskin & Clarke 1997, McKenna & Green 2002). Many studies emphasise factors that hinder, rather than motivate, individuals to join communities, i.e. technological (e.g. accessibility, reliability, or flexibility), motivational (e.g. conservatism, fear of change, or lack of involvement), task related (e.g. task inappropriateness), or system related factors (e.g. political, cultural, environment and structural aspects) (McKenna & Green 2002). Individuals' motivations to join online groups have also been compared with traditional offline groups (de Burgh-Woodman & Brace-Govan 2007). However, prior studies mostly explore interpersonal relationships and group dynamics, and not individuals' relationship with online communities of interest, nor factors that build or reduce consumers' engagement. Only few studies have investigated factors influencing consumers'

ongoing relationship with an online community. Some studies have addressed factors that influence users' motivation of or attraction to online communities (Close, Finney, Lacey & Sneath 2006, de Burgh-Woodman & Brace-Govan 2007, Raacke & Bonds-Raacke 2008), however, only few studies have explored consumers' engagement with online communities.

Consumer engagement has received much focus in recent research (Brodie et al 2011, van Doorn, Lemon, Mittal, Pick, Pirmer, Verhoef 2010) and further theoretical and empirical research on engagement is called for (Brodie et al 2013). Research on consumer engagement typically emphasise customer-brand relationships (Bowden 2009, Cova & Pace 2006, Hollebeek 2011). However, studies on engagement in online communities of interest are scarce. Recently a study on consumer engagement in an online brand community context described consumers' engagement activities in terms of learning, sharing, co-developing, socializing, and advocating (Brodie et al 2013). Another study explored consumers' relationship engagement by describing different stages of members' relationship development (Heinonen 2011). The study representing one of few studies focused on online communities of interest described the recognized, considered, committed, faded, and inactive stages. Forces that either advance, reverse, or inhibit the relationship from developing were also identified. However, the different facets of consumer engagement are still underexplored.

The aim of this study is to describe consumer engagement by exploring factors that either strengthen or weaken consumer's engagement with online communities of interest. Online communities of interest are seen as websites where consumers are able to interact, share, and gather information around mutual interests and goals. Similar to recent research on consumer engagement (e.g. Brodie et al 2011), consumer engagement denotes in this paper members' cognitive, emotional and behavioural enthusiasm to a specific area of interest. The focus is on users' engagement with the theme of the online community as an entity, and other relationships users may have with specific brands or other community members are excluded.

## METHODOLOGY

Two netnographic studies were conducted. As communities linked to specialty magazines have been found to be strong (Davidson, McNeill, and Ferguson 2007), an online community associated with the website of a magazine was chosen for the study. Although the website was maintained by the magazine, the online community was not centred on the brand, rather around the broad theme of the magazine, namely household and family-related topics. Data were collected by linking the online questionnaire at the discussion forum. The questionnaire included three qualitative questions about respondents' relationship with the online community. The first question emphasized the relationship beginning, and respondents were asked to describe the situation when they decided to use the online community for the first time. The second question concerned the reasons for using this specific online community. Thirdly, respondents were asked to describe their relationship with the service provider. The resulting narratives are the respondents' own wording and thus exactly

represent respondents' perceived reality.

The respondents were self-selected resulting in a total sample size of N=243. The narratives were coded and content analysed based on similarities and differences using the coding program NVivo. The findings from the two studies were kept separate. A thematic variable-oriented approach (Miles & Huberman 1994, Braun & Clarke 2006) was used to identify themes that cut across cases. The respondents' own terminology was used to develop codes for the categories by conceptualizing and abstracting the meaning of the words (Strauss & Corbin 1998). The codes were subsequently analysed and reduced by following an open-coding technique (Miles & Huberman 1994) that has been argued to be especially appropriate for theory building. Additionally, insight was taken from the literature to find consistencies with the qualitative data. This refinement in the coding is consistent with abductive logic (Patton 2002) where theoretical and qualitative insight evolves iteratively. The qualitative data were categorized into two themes, either strengthening or weakening respondents' relationship with the online community. The factors for the two categories evolved inductively.

## FINDINGS

Structured with the two main categories, ten themes related to strengthening the relationship and five themes weakening the relationship emerged from the analyses of the narratives. The participants were positive towards the specific online community, and consequently the number of respondents mentioning factors that weaken the engagement was lower than for factors strengthening engagement.

Table 1: Factors influencing consumer engagement

	Study 1 (N=115)	Study 2 (N=129)	Total (N=243)
Factors strengthening			
<i>Peer support</i>	40	49	89
<i>Relevant topics</i>	30	40	70
<i>Ease of use</i>	25	30	56
<i>Intensity of discussions</i>	14	30	44
<i>Life situation</i>	26	14	40
<i>Routines</i>	18	12	30
<i>Brand familiarity</i>	12	17	29
<i>Word-of-mouth</i>	16	10	26
<i>Entertainment</i>	9	13	22
<i>Inspiration</i>	3	5	8

Factors weakening

<i>Irritation</i>	6	11	17
<i>Community intimacy</i>	2	8	10
<i>Time</i>	4	5	9
<i>Poor usability</i>	0	8	8
<i>Reliability</i>	3	2	5

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Factors strengthening consumer engagement

Peer support: Peer support is important in strengthening consumers' engagement with the online community. The relationships and friendships between the members create a sense of belonging and increase the perceived community value. Community members share their ups and downs with their peers and thus support to each other. Peer support also included tips and ideas for domestic problems. It is a question of both being able to share and getting useful, although highly personal advice.

*It is comforting to read that others in the same life situation have similar experiences as me. A64*

*It is a place to ease pressure and ask about concerning issues. A15*

Relevance: Another important factor deepening engagement is the existence of relevant discussions among community members. It differs from peer support in the sense that here the nature of valuable insight and perspectives and variety of discussions improve the understanding of a particular topic. In other words, the usefulness of member insights and experiences drive members to continue their visit to the community.

*From the site, I can find interesting topics and events that touch me. I can also always get an answer to a troubling issue. B65*

*Good discussion forum with different topics that touch my life and areas of interest. B72*

Ease of use: The ease of use of the online community is a tangible factor that improves the use of the community and also strengthens consumer engagement. The community needs a clear structure that enables members to find relevant sections.

*I've tried also other sites, but this site is clearer than other sites. A37*

Intensity of discussions: A related factor is the intensity of discussions that also deepen consumer engagement with the community. A broad range of topics is also dependent on the quantity and quality of the discussions. The more the members share their feelings and experiences and reveal glimpses of their private lives, the stronger consumer engagement to the community. It is a function of quantity – number of discussants – and quality – intimacy of discussion.

*Animated discussion, from where you can get much information to own problems. A97*

*The site has many visitors and new experiences and opinions emerge constantly. Other sites do not seem this active. A74*

Life situation: Online communities of interest emphasise a particular topic or theme, and in the current study it involved family, parenthood, and domestic issues. Members' life situation influenced strongly the frequency and intensity of visits at the community. The more the reality of the individual was related to the topic of the community, e.g. to pregnancy or small children, the stronger the relationship to the community.

*You meet other people in the same life situation and you always get someone to talk to if the walls at home seem to fall. B23*

Routines: Visiting the online community may become a habit and this routine strengthens the relationship with the online community. Respondents who noted that they visited the online community as a habit or as a pastime also typically visited the community frequently.

*I've used the site now for four years and it has become a habit. B24*

*I learnt the system of the site and got acquainted with the users so discussion is easiest there. A8*

Brand familiarity: Another factor that intensifies consumer engagement to the online community is brand familiarity. If the community is linked to an existing brand, then the role of the community is strengthened. The respondents noted that the magazine functioned as a driver to use also the associated online community.

*I am the subscriber of the magazine since many years and therefore it felt natural to adhere to the site. A37*

Word-of-mouth: Another important factor in increasing consumer engagement is the role of members' social environment. Many respondents noted that they started using and became attached to the community because friends recommended the site.

*It must have been a friend saying that she read an answer to a problem there and this made me want to take a look at the site. A28*

Entertainment: Respondents also mentioned that they continued to use the site because of the fun, provocative, and fascinating discussions. In many ways reading the discussions was a supplement to reading gossip magazines.

*I browse through the discussions in the same way as a women's magazine. A102*

*Additionally, some discussions include hysterically fun questions and topics, and I often relax reading them while the baby is napping. A13*

Inspiration: The theme of the community of interest was very important for the respondents, as indicated by the significant weight of relevant information. Another related aspect was the inspirational role of some information and discussions that inspired respondents to buy products or change their behaviour in some way.

*The discussions about clothes and shoes give me current information about offers in different stores and a good comparison of the quality of clothes and shoes. B35  
I find good links and tips for cooking etc. A77*

### Factors weakening consumer engagement

Five factors weakening members' engagement with the online community were identified.

Irritation: The role of other community members can also decrease consumer engagement towards the community. This is particularly related to the misbehaviour of others and irritation towards other users' discussions, such as obscene, nonsense, or moralistic postings.

*Sometimes I get irritated by some users' moralistic or argumentative behaviour. B42  
There are some troublemakers on the open pages: It is so easy to write feistily when you are a faceless user... everybody does not care about netiquette. B89*

Community intimacy: Also community intimacy can reduce relationship strength towards the community, if users do not feel that they belong to the community or if another community feels closer. Once the commitment between the members becomes strong, they may develop closed groups into which only certain members are invited. These groups are not necessarily situated in the case community and thus diminish the involvement between the group members and the case community.

*We created a community who meet live a few times a month. Nowadays I browse the site mostly for information because our community has moved to a closed site. A4  
I then left the discussion on the site and went to a competing site, because the bunch there was not as cliquy as here. B35*

Time: Also the user's life situation and changes in interests and needs represent forces that drive the member to visit the community less frequently. Life situation represented by lack of time to visit the community can decrease member engagement.

*I visit regularly, but nowadays less frequently than when the baby was little. I will return to work in the fall, so probably the visit to the*

*site will decrease remarkably. A97*

Community changes: Changes in the user interface can push users towards visiting the community less frequently. The site structure or the usability may be perceived as more complicated. Also the decrease in number of visitors may influence member engagement.

*A long with the site reform my relationship [with the community] has changed from a love relationship to mostly hate relationship and the number of visits has decreased. The lousy site usability influences the brand for both the magazine and the whole company. B124*

Subjectivity: The respondents mentioned that the amount of information found on the site increased their use of the community. Still, the subjectivity of the information, e.g. personal opinions and advice, reduced the perceived content value and thus pushed members to other sites.

I critically evaluate the "facts" in the discussions. A9

I don't trust the "information" I get from the site, so in case I really need some specific information, I search for it elsewhere. A73

## DISCUSSION

The study investigated consumers' social and psychological factors of online community engagement by exploring consumer's relationship engagement with an online community of interest. The qualitative approach enables a comprehensive analysis of factors strengthening and weakening consumers' engagement in online communities. The study also showed the main benefits and disadvantages of online communities, and how online communities of interest are integrated in the daily lives.

The findings from the study have similarities with previous studies, especially studies regarding factors influencing why people join online communities (Lin 2006, Romm, Pliskin & Clarke 1997). Some factors were partly both strengthening and weakening the relationship, meaning that they have both positive and negative elements, such as closeness between members. We identified technological elements such as usability and quality of content as well as motivational factors such as life situation. In line with previous research (Antikainen 2007), the factors that strengthen and weaken members' relationship with an online community are both person-related and service related. Service-related factors are such that community members can manage, by facilitating the use of the site, creating clear links between sections, and by administering the topics. Person-related factors are those that are more difficult for community maintainers to influence as they are based on both individual needs and preferences and the dynamics of the member constellation. However, community maintainers can attempt to influence the relationship strength also through these factors by facilitating the relationships between members, initiating relevant discussions, and developing the website layout to enable vivid and varied discussions.

The study was exploratory, not aimed at producing generalizable findings,

but detailed and meaningful data. Qualitative data gathered through an online questionnaire included in-depth narratives of the respondents' own feelings and experiences. The narratives were thematically analyzed focusing on factors strengthening or weakening engagement rather than on individual member experiences of the online community. Several avenues for further research emerged from the study. The focus of the study can be shifted to other contexts, such as online communities of practice, brand communities, or social networking sites. Similar factors can be used to describe why people use social networks such as Facebook. Moreover, even though the study was focused on members' relationship with the online community, member-to-member relationships strongly increased consumer engagement with the community. Similarly, member relationships have been found to be strong (Quinton & Harridge-March 2010), but further research needs to explore the nature of and factors strengthening members' relationship to each other. Additionally, profiling members based on their online activity can provide more detailed insight regarding factors influencing members' relationship with the online community. For example, consumer online activity has been shown to positively influence perceptions of online content (Heinonen 2011) and online relationships (Hsu, Wang & Tai 2011), and similarly it can be expected that more active members are more satisfied with their online community relationships. Thus, future research needs to explore the role of different activity profiles on the factors that strengthen and weaken members' relationship with online communities.

The study was conducted within one online community of interest focusing on the general theme of parenthood and domestic issues. Because of the abstract nature of the proposed factors, for example, networking and access to peer support, the findings can be assumed to be transferable to other online communities of interest that connect people with shared interest in a particular area, lifetheme, or hobby. Although this particular community was linked to a magazine, it differed from a brand community focused on the focal brand and products related to the brand (Lee and Fournier 2009). In contrast, the studied community did not specifically address brand, but instead topics related to the interest area of the magazine, i.e. family affairs. Therefore, the findings need to be adapted for brand communities.

## REFERENCES

- Antikainen M. (2007), The attraction of company online communities: a multiple case study. Doctoral dissertation 1209, Tampere.
- Braun, V and Clarke, V. (2006), "Using thematic analysis in psychology", *Qualitative Research in Psychology*, 3:77–101.
- Brodie, R., Hollebeek, L. Juric, B. & Ilic, A. (2011), "Customer engagement: Conceptual domain, fundamental propositions, and implications for research, *Journal of Service Research*, 14(3), 252-271
- Brodie, R., Ilic, A., Juric, B. & Hollebeek, L. (2013), "Customer engagement in a virtual brand community: An exploratory analysis, *Journal of Business Research*, 66, 105-114

Bowden, J. (2009), "The process of consumer engagement: A conceptual framework", *Journal of Marketing Theory and Practice*, 17 (1), 63-74

de Burgh-Woodman, H. and Brace-Govan, J. (2007), "We do not live to buy: Why subcultures are different from brand communities and the meaning for marketing discourse", *International Journal of Sociology and Social Policy*, 27 (5/6):193-207

Close, A.G., Finney, R.Z., Lacey, R.Z. & Sneath, J.Z. (2006), "Engaging the Consumer through Event Marketing: Linking Attendees with the Sponsor, Community, and Brand", *Journal of Advertising Research*, 12: 420-433

Cova, B. & Pace, S. (2006), "Brand community of convenience products: new forms of customer empowerment – the case my Nutella The Community", *European Journal of Marketing*, 40 (9/10), 1087-1105

Davidson, L., McNeill, L. and Ferguson, F. (2007), "Magazine communities: Brand community formation in magazine consumption", *International Journal of Sociology and Social Policy*, 27 (5/6): 208-220.

van Doorn, J., Lemon, K., Mittal, V., Nass, S., Pick, D., Pirner, P. & Verhoef, P., (2010), "Customer Engagement Behavior: Theoretical Foundations and Research Directions", *Journal of Service Research*, 13 (3): 253-266

Dubé, L., Bourhis, A., and Jacob, R. (2006), "Towards a Typology of Virtual Communities of Practice", *Interdisciplinary Journal of Information, Knowledge, and Management*, 70, 69-93

Fournier, S. & Lee, L. (2009), "Getting Brand communities right", *Harvard Business Review*, April, 105-111

Heinonen, K. (2011): Conceptualising consumers' dynamic relationship engagement: the development of online community relationships, *Journal of Customer Behaviour*, 10 (1), 49-72

Heinonen, K. (2011), "Consumer Activity in Social Media: Managerial Approaches To Consumers' Social Media Behavior", *Journal of Consumer Behaviour*, 10(6): 356-364

Hollebeek, L. (2011), "Demystifying customer brand engagement; exploring the loyalty nexus", *Journal of Marketing Management*, 27 (7/8) 785-807

Hsu, C., Wang, C. and Tai, Y. (2011), "The closer the relationships, the more the interaction on Facebook? Investigating the case of Taiwan users", *Cyberpsychology, Behavior, and social networking*, 14(7/8): 473-476

Lin, H.F. (2006), "Understanding behavioral intention to participate in virtual communities", *CyberPsychology & Behavior*, 9: 540-7.

McAlexander, J.H., Schouten, J.W, and Koenig, H.F. (2002), "Building Brand Community", *Journal of Marketing*, 66, (1): 38-54

McKenna, K.Y.A and Green, A.S. (2002), "Virtual group dynamics", *Group Dynamics: Theory and Research practice*, 6 (1):116-127

Miles, M.B. and Huberman, M.A. (1994), *Qualitative Data Analysis: An Expanded Sourcebook*, 2nd ed., Sage, Thousand Oaks, CA.

Muñiz, A.M. and O'Guinn, T.C. (2001), "Brand Community", *Journal of Consumer Research*, 27 (March): 412-432.

Ouwensloot, H. and Odekerken-Schröder, G. (2008), "Who's who in brand communities—and why", *European Journal of Marketing*, 42(5/6),571-585

Patton, M.Q. (2002), *Qualitative Research & Evaluation Methods*, Sage, Thousand Oaks, CA.

Quinton, S. and Harridge-March, S. (2010), "Relationships in online communities: the potential for marketers", *Journal of research in interactive marketing*, 4 (1): 59-73

Raacke JR, Bonds-Raacke J. (2008), "MySpace and Facebook: applying the uses and gratifications theory to exploring friendnetworking sites", *CyberPsychology & Behavior*, 11: 169–74.

Romm, C., Pliskin, N. and Clarke, R., (1997)"Virtual communities and society: toward an integrative three phase model", *International Journal of Information Management*, 17 (4): 261-70.

Schau, H.J., Muñiz, A.M., and Arnould, E.J., (2009) "How Brand Community Practices Create Value", *Journal of Marketing*, 73 (September): 30-51

Strauss, A. and Corbin, J., (1998) *Basics of Qualitative Research: Techniques and Procedures for Developing Grounded Theory*, 2nd ed., Sage, Thousand Oaks, CA.

Szmigin, C. and Reppel, A., (2005) "Online community Enhancing the relationship marketing concept through customer bonding", *International Journal of Service Industry Management*, 16(5): 480-496

# CONSUMER NARRATIVES OF GOOD SERVICE EXPERIENCES: FRACTURES IN SCRIPT AND IMPROVISED ROLES

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## ABSTRACT

Our article studies Finnish service culture from the performance theory point of view, where the focus is on the roles and dramaturgy of service encounters. We analyse service events and encounters as scripted service scenes consisting of role set and role expectations. Through script and performance we have elaborated the plot turns of service and the evolving roles of consumers and customer servants. We argue that a positive service experience would appear when the customer service worker and the consumer succeed in adapting their improvised role performances interactively.

## INTRODUCTION

In a fluent service event role expectations between agents meet, and there is a clear understanding between roles, i.e. the roles are congruent (Broderick, 1998). Thus both customer and customer service worker recognize the role expectations directed at them and follow a service script appropriate to the situation (Solomon et al., 1985). Deviating from the script has in fact primarily been linked to lack of satisfaction and an experience of unpleasant service encounter, when the service situation fails to live up to expectations (Solomon et al., 1985). It has, however, been found that in certain service situations customer service worker can create an excellent service experience for the customer by improvising (John et al., 2006). It is notable that in the literature consumer-customer has been seen as a passive audience, whereas service worker has been seen more often as an active agent (Goodwin, 1996).

## THEORETICAL STANDPOINT: PERFORMANCE AND CULTURAL STUDIES

As argued our study is based on the role and performance theories (e.g. Goffman, 1959; Solomon et al., 1985; Schechner, 1988). We analyse service events and encounters as scripted service scenes, consisting of a role set, role congruence and role expectations (e.g. Solomon et al., 1995; Broderick, 1998). We think that role requirements and prerequisites, i.e. the role set and service scripts are culturally defined. By culture we refer to the system of representation through which people make sense of their everyday life. Consequently culture constitutes the conditions of possibility for people to think, talk and act (Moisander and Valtonen, 2006). Consumers in a service situation construct their experiences and social interactions from learnt, cultural models. Thus, service script enables and facilitates social interaction in service situations.

## RESEARCH DATA AND METHODS

We have collected narratives told by both consumers and customer service workers. We asked them to recount service experiences they remembered as being positive ('good'), and/or as unpleasant ('bad'). We collected texts by using a writing competition open for participation through an open-access internet form, e-mail or post during the spring of 2012. 71 women and 19 men (gender unknown 2) participated in the competition, their ages varying from 17 to 81 years. We also gained stories through our students: 62 female and 38 male students collected stories by interviewing, informants ages varying from 15 to 83 years. The text corpus consists of a total of 353 service-related narratives by 190 narrators.

Here, we focus on examining 121 narratives of 'good' service experiences told by consumers (competition data 49, student data 72). We have analysed service narratives by using concepts and metaphors from the worlds of theatre and games as well as play. Through script, performance, scenes and rules we have elaborated the plot turns of service and the changing roles of consumers and customer servants. We lean on the tradition of cultural research in interpreting the data (Moisander and Valtonen, 2006).

## RESULTS

According to our results improvisation is the key to a successful service experience. The consumers recount as positive service when the plot of the script is unusual or something unexpected happens. In other words the customer service worker deviates from the functional script (Harris et al., 2003) and the consumer from the cultural script when one party makes the opening gambit, i.e. initiates a new plot development. Thus the customer feels the service is good when people are flexible about company rules or policy for the customer's benefit.

Situations also perceived pleasant are those where the sales person can solve issues not part of the job description and is willing to do something 'extra', not strictly part of the job, for the client. This role change concerns also the consumer, when he/she becomes as an active performer of improvised service, and even the instigator of a new plot structure – and the service game. The consumer moves from a member of the public to a player, a performer or a co-actor. The shared improvisation of customer service worker and consumer is the focal point of the service scene, where both are active parties in interaction. A memorable and positive service experience would therefore appear to be constructed when the customer service worker and also the consumer succeed in adapting their role performances spontaneously and interactively in a surprising and unexpected situation. In role theoretical service studies, the fact that characters are constructed in active interaction with one another has not been given due attention (Goffman, 1959).

## REFERENCES

- Broderick, A. J. (1998), "Role theory, role management and service performance", *The Journal of Services Marketing*, 12 (5) 348–361.
- Goffman, E. (1959), *The presentation of self in everyday life*, Anchor Books, New York.
- Goodwin, C. (1996), "Moving the drama into the factory: the contribution of metaphors to service research", *European Journal of Marketing*, 30 (9) 13–36.
- Harris, R., Harris, K. and Baron, S. (2003), "Theatrical service experiences. Dramatic script development with employees", *International Journal of Service Industry Management*, 14 (2) 184–199.
- John, J., Grove, S. J. and Fisk, R. P. (2006), "Improvisation in service performances: lessons from jazz", *Managing Service Quality*, 16 (3) 247–268.
- Moisander, J. and Valtonen, A. (2006), *Qualitative Marketing Research: A Cultural Approach*, Sage Publications, London.
- Schechner, R. (1988), *Performance Theory*, Routledge, New York.
- Solomon, M. R., Surprenant, C., Czepiel, J. A. and Gutman, E. G. (1985), "A Role Theory Perspective on Dyadic Interactions: The Service Encounter", *Journal of Marketing*, 49 (Winter 1985) 99–111.
- Williams, J. A. and Andersson, H. H. (2005), "Engaging Customers in Service Creation: a Theater Perspective", *Journal of Services Marketing* 19 (1) 13–23.

# CRITICAL FAILURES IN COMPLEX SERVICES: THE OPERATIONS MANAGEMENT CHALLENGES

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## ABSTRACT

Complex service delivery processes deal with important client issues. A critical service failure is a series of variations that jeopardizes the achievement of an important goal, and can thus be very costly. Complex service industries have been unevenly studied in this respect.

The extant operations management literature was surveyed and enriched using secondary and tertiary data. This exploratory research develops a descriptive model of the sources of critical failures within complex service delivery and their management.

## INTRODUCTION

Complex service delivery processes and critical service failures share in common that they are very costly, often to clients as well as to providers. While both have been examined independently, their co-occurrence has only been unevenly studied. Furthermore, while highly publicized critical service failures such as airplane crashes have clearly been examined extensively, little is known about failures that lack a public footprint, such as those occurring in personal finance and child protective services, while clearly originating from a complex service delivery process.

The purpose of this paper is to propose a model of potential causes of critical service failures occurring within complex service delivery processes. A qualitative analysis of secondary and tertiary data of specific failures originating from complex service events was undertaken to pursue that goal.

## LITERATURE REVIEW

As Lloyd (2001) puts it, to assess complexity, three questions should be asked: a) How hard is it to describe? b) How hard is it to create? and c) What is its degree of organization? Thus, at one end of the complexity spectrum, we may find "simple" services: a single server performing a simple single task using a standard procedure, such as doing the dishes or mowing the lawn.

Consider transactional services as one step up in the degree of complexity: a service involving several operators, typically divided into back and front offices, performing repetitively simple tasks using standardized procedures. Now replace one of the workers by an expert (expert service). The expertise involves much judgment based on knowledge and experience, as well as on instructions and training in the organization. This introduces an important source of variation, with ripple effects throughout the system, and thus more opportunity for failure.

Complexity is ratcheted up a notch (professional services) if the expert is a professional, that is, an expert basing his actions on a body of knowledge beyond the control of the organization, and subject to multiple different interpretations (Von Nordenflycht, 2010; Lewis & Brown, 2012). A special class of such services requires the intervention of several experts with different domains of expertise (often from different organizations or at least different parts of the organization, with different individual and institutional goals), as well as technical and clerical personnel (Ng & Andreu, 2012). Child protective services in the case of parental violence, the treatment of cancer, or facilitating mergers and acquisitions are illustrations of such services, which we shall refer to as complex services. In short, complex services: a) deal with important customer issues; b) involve more than one expert, with some level of autonomy and different expertise; and c) encompass more than one organizational unit and some form of regulatory authority.

### Hierarchy of failures

To focus our discussion of service failures, we propose a five-point severity scale based on the impact on the customer: harmless, annoying, disruptive, severe and catastrophic. One must bear in mind that each customer is different and that the same outcome can be perceived and appreciated differently by different customers (Matzler and Hinterhuber, 1998). Instead of trying to capture individual perceptions, in developing this scale we are referring to the actual long-term consequences of the service episode's outcome, as it would be assessed by a group of independent experts presented with all the relevant facts. Of course, these may never be never known with certainty, given the knowledge gap and the attribution problem (Harvey, 1998).

Thus, the model presented in figure 1 is strictly conceptual. It is best understood by referring to specific examples of each type of service. Taking a cab is a simple service. The driver's appearance may impact the customer's perception of the encounter, but this would generally be considered harmless. A fatal accident would of course be catastrophic, by any standard. At the opposite end, during the design and construction of an industrial building (complex), substituting an equivalent make of windows may be harmless, while the roof caving in can be catastrophic.

Figure 1: Hierarchy of failures matrix

		Complexity of services and examples					
		Simple (Taxi)	Transactional (Branch banking)	Expert (IT advice)	Professional (General practice clinic)	Complex (Industrial building)	
Severity of failures	-	Hamless	Appearance	5 minutes in queue	Report printed with small font	Doctor's bad breath	Equivalent substitute for windows
	Annoying	Poor selection of route	Repeat and correct instructions	Response time excessive at peak period	Shot hurts a little	Imperfections in wall painting	
	Disruptive	Can't find the location	Refuse to cash check and escalates to manager	Additional functions not available: delays and expenses	Unnecessary tests prescribed	Can't locate machine on preferred spot	
	Severe	Car involved in accident, passenger is a witness	Money transferred to wrong account and takes time to correct	Wrong configuration with time and money impact	Misdiagnosis and/or inappropriate treatment with severe but temporary effects	Major rework to masonry	
	+ Catastrophic	Fatal accident	Money transferred to wrong account and purchase offer expires	Stolen confidential data	Misdiagnosis leads to a stroke	Roof caves in	

### Risk analysis and management: a normative model

Failure within a service episode can occur if the customer's needs and expectations are poorly identified, if an unforeseen external event occurs, if the process varies severely, or any combination thereof. It is generally accepted within the risk management field that failure rarely stems from a lone event (e.g., Abdolhamidzadeh et al., 2012).

Risk analysis consists in processing available information or obtaining new information to identify risks. Risk management consists in assigning priorities to these risks, developing countermeasures and contingency plans, monitoring risks, and mobilizing the organization to address emerging issues (Beroggi & Wallace, 1994). Effective service recovery and learning from failure should follow from any failure that slipped through the cracks. We now turn to the methodology used to explore critical failures in complex services.

### METHODOLOGY

A convenient sample of ten critical service failures was selected from across the spectrum of complex service industries based on the following criteria: a) the service met the criteria of a complex service delivery process, b) the failure met the criteria of a critical service failure, c) available information was sufficient to assess the situation, and d) the source was authoritative and independent, or some validation through multiple sources was possible. We also aimed at covering a variety of contexts: private and public; diverse

industries; single customer, group, or system wide failures; involved or passive customer; “B to B” and “B to C”; paying, free, and compulsory services; strong or weak role of the regulatory environment; and variety of national and international situations. Due to the broad range of criteria, trade-offs had to be made. The “Medical malpractice” case, for example, is single sourced and the description is limited, while “China milk” suffers from a paucity of independent sources. The resulting cases breakdown is shown in table 1.

Table 1: Ten cases breakdown

Case	Industry	Case study	Issue
1	Health - surgery	Rhode Island Hospital	Surgery on wrong side of brain
2	Pharmaceutical	Mediator	Approval of a dangerous molecule
3	Health -medicine	Medical malpractice	Critical follow up on skin cancer not done
4	Blood supply	VIH contamination	Tainted blood scandal
5	Crime prevention	The "Carlos de Luna" affair	Wrongful conviction
6	Finance	Pension plan meltdown	Mortgage backed securities – reckless endangerment
7	Air transportation	JetBlue	Meltdown at JFK International
8	Construction	Olympic stadium	Infeasible design costs taxpayers a bundle
9	Commodity trading	California blackout	Energy market disruptions
10	Food safety	China milk	Melamine is introduced into the milk supply chain

From the available documentation, using a standard format, the three researchers prepared a brief summary (generally two-three pages) for three of the cases (one of them wrote four summaries). From this summary, a detailed flow diagram of the unfolding of the service episode was also designed, from its inception through its denouement.

The very process of preparing the diagram proved helpful, as it often sent the researchers back to the data for clarification. Starting from an adapted process mapping technique (Conger, 2011), the modelling evolved to different ways of grouping actors in “swimlanes” (i.e. “external event”, “regulatory agencies”, client, etc.), breaking down into major “acts” (pre-event, event, after-effects, recovery and learning (or failure to learn and meltdown), and identifying turning points (root cause, trigger, escalation, critical passivity). Several versions of each narrative and mapping were prepared, until the researchers were satisfied that they accurately depicted

the sequence of events. Analysis and discussion of the cases and literature led to the identification of potential causes.

## RESULTS

From the preparation, fine-tuning, and discussion of the cases, 19 initial causes were identified. The researchers discussed the effects of these causes on the cases. Four new causes emerged, and many overlap as well as ambiguities were identified and resolved. A new set of 23 causes was distilled from the initial set, further grouped into seven factors, as displayed in figure 2. The researchers then independently assessed the cases, applying dichotomist (absent / present) categories to the causes.

The results, not displayed for lack of space, were analysed to assess the coalescence between the raters' opinions. The AgreeStat procedure (Advanced Analytics, 2011) was used to estimate pertinent inter-rater reliability indices (Fleiss, 1971; Gwet, 2010a; Brennan & Prediger, 1981). As it accounts for agreement due to mere chance (Goodwin, 2001), the parameter estimate for inter-rater agreement is shown for reference only.

The detailed results were also aggregated into factor results, assuming the factor existed in the presence of at least one of its hierarchically dependent causes. Similar indices were also computed at the factor level. Indices' parameter estimates for both levels of analysis are displayed in table 2.

Figure 2: Critical service failure causes and factors

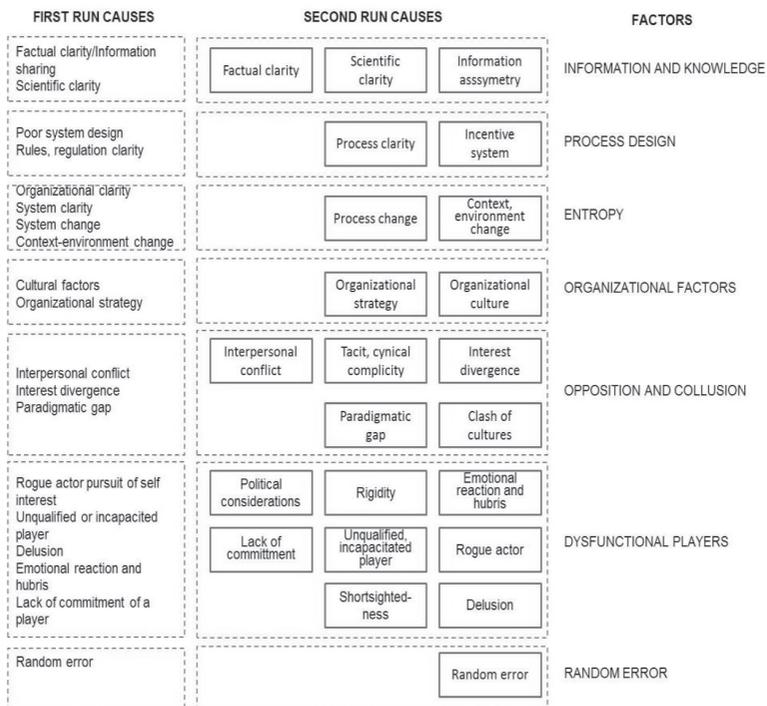


Table 2: Raters' agreement assessment

Method	Second Run Causes Coefficient	Aggregate Factors Coefficient
Fleiss' Kappa	0,4454	0,6430
Gwet's AC1	0,5075	0,7037
Brennan-Prediger	0,4783	0,6762
Percent Agreement	0,7391	0,8381

A variety of benchmarking scales, while originally purported to be used with the Kappa coefficient, can also be employed to evaluate the strength of the more advanced indices used in this study (Gwet, 2010b, p. 114). In general, an index value between 0,40 and 0,60 characterises a moderate level of agreement, while the value of 0,70 is considered a useful heuristic cut-off between low and high indices' values, especially for newly developed measures and/or low intensity research questions

(LeBreton & Senter, 2008, p. 836). Thus, the level of raters' agreement appears satisfactory, especially at the aggregate factor level. This analysis, however, does not fully capture the dynamic patterns and force fields at work in each situation. Further discussion of the cases led to the identification of a number of archetypes, as displayed in figure 3, representing different configurations of unfolding events. The authors first assigned the cases to the archetypes independently, resulting in little agreement. An ensuing discussion led to clarification of the archetypes and a consensus as to classification. Two archetypes that ended up unmatched to cases have nevertheless been kept. No clear link between the causes, factors, and archetypes emerged.

Figure 3: Archetypes of unfolding events

Archetype	Visual image	Description	Case
Big Bang (or melt-down)		One big event or decision has effects in many aspects of operations, resulting in critical failure.	None
Collision		Many independent events or decisions eventually have a joint effect on some critical aspect of the operation.	California blackout
Snowball		An original event or decision sends growing shockwaves into the system, eventually resulting in critical failure.	Pension plan meltdown
Tsunami		A "medium sized" but manageable event or decision is never managed. It simply rolls on without visible consequences for some time.	Olympic stadium
Sleeper (or time bomb)		One apparently innocuous event is eventually felt in a dramatic way on the operation.	None
Swiss cheese		The "right situation" eventually "exploits" a set of independent weaknesses or flaws that never had any operational consequences.	Mediator

## DISCUSSION

Typically, at a high level, critical failure initially involves the creation of a context, either through the actions of one or more agents or through entropy, which renders the process vulnerable. While some internal or external actors may detect this vulnerability, no consensus for action arises. An event or a decision triggers the service episode. A series of inadequate responses to the unfolding situation by various actors not only fails to resolve the problem, but also often makes it worse. By the time a coalition of actors potent enough to take appropriate action is formed, irreparable damage has been done.

At a time when companies are striving for operational excellence, many fail to grasp (and take) the crucial step of first avoiding operational mediocrity. If it were possible to identify fault lines in a complex service delivery process, i.e. factors inherently hazardous to the process, countermeasures could possibly be identified to reduce the risk of critical failure. Techniques such as failure mode and effect analysis, fault-tree or event-tree analysis could then be put to use. Child protective services, for example, involve social workers, criminologists, specialized educators, psychologists, and lawyers, amongst others. With so many professionals with such widely different backgrounds involved in assessing some of the most complex human situations society face, paradigmatic gaps are sure to initiate fault lines in the process. Can specific “pressure points” be identified, such as the decision point (that may involve a varied mix of professionals) on whether or not to withdraw children from their family or reintegrate them with their family? Can effective preventive or mitigating measures be developed? Table 3 illustrates a selection of operational challenges related to failure factors.

Table 3: Factors and operational challenges

Factor	Operational challenges
Information and knowledge	Developing metrics and standards
Process design	Documenting the system and involving key players in regular updates
Entropy	Developing a process dashboard
Organizational factors	Deconstructing and focusing the value chain
Opposition and collusion	Conducting "pre-mortem" sessions
Dysfunctional players	Close monitoring of process. Early warning indicators
Random error	Fail-safing the process at critical points

Each archetype presents its own challenges and opportunities for detection, deflection, or mitigation. A Swiss cheese, for instance, grows in a culture of laissez-faire and would quickly be brought into the open by most quality initiatives. A Snowball is largely driven by a climate of panic feeding on itself, where each reaction compounds the problem; someone needs to

blow the whistle and call a timeout. Sleepers and Tsunamis lie below the radar, or misused radar; here, faulty pattern recognition on the part of the stakeholders may be the prominent difficulty.

#### LIMITATIONS AND AREAS OF FUTURE RESEARCH

Even though summary cases and events mapping were prepared, one researcher always had more information than the others, resulting in some biases in the ratings. Further, some cases have had ample public exposure and discussion in the media while others were totally new to all researchers. This prior knowledge contributed to information asymmetry. The definition of the archetypes is still too fuzzy and there is some degree of overlap between them. For instance, JetBlue was classified as a Snowball. One of the researchers viewed it as a Big bang (or meltdown), for which there may be a valid narrative as well: the JFK events provoked a system wide failure, triggering an inability to match aircrafts, pilots, cabin crews, passengers, and luggage at the right time and place. The Sleeper and Tsunami archetypes may also be hard to differentiate in practice, as could be Collision and Swiss cheese. Further, a lack of detailed information about what went on exactly may easily make a Sleeper look as a Big bang, as the original event may not (yet) have come to light.

A study of close calls, averted failures, and effective service recovery in complex delivery service processes should yield interesting insights about best practices in risk prevention. Prior to that however, the causes and factors identified in this study needs to be validated because it was based on a small convenient sample using secondary and tertiary data. The proposed model provides a good starting point to develop a sound survey instrument. Further, the complex service “sector” needs to be better defined. There certainly is no consensus in the literature even as to the existence of such a sector, as distinguished from professional services, for example. Even in the latter sector, there has been remarkably little empirical work on risk analysis, especially from an operations management (OM) perspective. The study of critical failures as a valid field of scientific enquiry by OM researchers also needs to be further clarified and justified.

#### CONCLUSION

Through the analysis of cases drawn from widely available sources on complex service delivery processes, a model of root causes and factors for critical service failure was developed. A number of archetypes representing different patterns of unfolding events were also identified in the course of the study. While this research is exploratory, it sheds new light on the unique nature of complex services and on the need for future research in this important field.

## REFERENCES

- Abdolhamidzadeh, B., C. R. C. Hassan, M. D. Hamid, S. Farrokhmeh, N. Badri and D. Rashtchian (2012), 'Anatomy of a domino accident: Roots, triggers and lessons learnt', *Process Safety and Environmental Protection*, 90(5): 424-429.
- Advanced Analytics, L. (2011), *AgreeStat 2011 for Excel Windows User's Guide*. Gaithersburg, MD: Advanced Analytics, LLC.
- Beroggi, G. E. G. and W. A. Wallace (1994), 'Operational risk management: A new paradigm for decision making', *IEEE Transactions on Systems, Man and Cybernetics*, 24(10): 1450-1457.
- Brennan, R. L. and D. J. Prediger (1981), 'Coefficient Kappa: some uses, misuses and alternatives', *Educational and Psychological Measurement*, 41: 687-699.
- Conger, Sue (2011), *Process Mapping and Management*, New York, NY: Business Expert Press.
- Fleiss, J. L. (1971), 'Measuring nominal scale agreement among many raters', *Psychological Bulletin*, 76: 378-382.
- Goodwin, L. (2001), 'Interrater agreement and reliability', *Measurement in Physical Education and Exercise Science*, 5(1): 13-34.
- Gwet, K. L. (2010a), 'Computing inter-rater reliability and its variance in the presence of high agreement', *British Journal of Mathematical and Statistical Psychology*, 61: 29-48.
- Gwet, K. L. (2010b), *Handbook of Inter-Rater Reliability*. Gaithersburg, MD: Advanced Analytics, LLC.
- Harvey, J. (1998), 'Service Quality: A Tutorial', *Journal of Operations Management*, 16: 583-597.
- LeBreton, J. M. and J. L. Senter (2008), 'Answers to 20 questions about interrater reliability and interrater agreement', *Organizational Research Methods*, 11(4), 815-852.
- Lewis, M. A. and A. D. Brown (2012), 'How different is professional service operations management?', *Journal of Operations Management*, 30(1-2): 1-11.
- Lloyd, S. (2001), 'Measures of complexity: A nonexhaustive list', *IEEE Control Systems Magazine*, 21(4): 7-8.
- Matzler, K. and H. H. Hinterhuber (1998), 'How to make product development projects more successful by integrating Kano's model of customer satisfaction into quality function deployment', *Technovation*, 18(1): 25-38.

Ng, I. and L. Andreu (2012), 'Special Issue: Research perspectives in the management of complex service systems', *European Management Journal*, 30(5): 405-409.

Von Nordenflycht, A. (2010), 'What is a professional service firm? Toward a theory and taxonomy of knowledge-intensive firms', *Academy of Management Review*, 35(1): 155-174.

# **CULTURAL COMPETENCY OR STEREOTYPIFICATION? INVESTIGATING INTERACTIONAL CULTURAL-COMPETENT PRACTICES IN INTERCULTURAL SERVICE-ENCOUNTERS**

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## **ABSTRACT**

The development of the service sector is a generalized phenomenon and marks the changes occurring into the labor conditions for several decades (Boutet 2008: 85). In general, service encounters have been the subject of a relatively large number of studies addressing the situations of service in terms of actual practices provided as well as experienced by the professionals themselves in real work contexts. On the empirical side, a plurality of occupational contexts were discussed such as, for example, transactions in bookstores (Aston, 1988), metro station officers (Joseph, 1988; 1995), family benefit fund experts (Boisset et Dardevelle, 1995), police officers (Fornel, 1993; Relieu, 1991, Zimmerman 1984). More generally, a large number of observations have dealt with the customer-officer relations in public services (Leduc, 2003; Jeantet, 2003, 2001; Dubois, 1999; Weller, 1999; Knight, 1991) as well as in retail sales environment (Filliettaz 2004a, 2004b).

In the commercial sector and especially in the hospitality industry, service interactions between “hosts” and “guests” are definitively considered as a major managerial challenge. In this sense, based on surveys and interviews with stakeholders, a large number of procedures and models have been designed and implemented to improve and optimize exchanges between service providers and customers during service encounters. With regard to this, the study of service interactions in the hotel industry from a perspective that is based on the analysis of actual practices as they occur in real work situations is lacking. Sociological dimensions and interactional aspects likely to concretely intervene in the front-desk service interactions remain largely unknown.

On the basis of an empirical research project on hotel front desk intercultural service encounters based on the Geneva area (Switzerland) this paper investigates the actual work that occurs in hotel front-desk services. We argue for an ethnographic-informed approach of workplace focused to observe actors’ (employees and customers) effective interactional practices and grasp embedded social categories in use. In particular, given the context of globalization and the growing importance of communication skills and intercultural sensitivity expected on the workplace (Boutet and Heller 2007), we will focus on professional competences deployed by service providers to manage or negotiate the possible cultural distance with the customer.

The purpose of understanding the real relational work in service encounters is even more solicited when focusing on front desk service encounters involving cultural diversity between service providers and customers. Indeed, it would be quite simplistic to automatically associate

one's behavior with his or her presumed cultural origin itself postulated from the country of provenance. According to this, it seems imperative to avoid an essentialist perspective treating "culture as something people have or to which they belong" (Piller, 2011: 15). On the opposite, if what is needed is to understand how in real business service providers make use of expected professional skills (expertise) to respond to the customers' requests, a more constructionist perspective addressing "culture as something people do or which they perform" (ibid., 15) should be preferred. Thus, the primary question is to understand how cultural aspects become relevant in service interaction and how they are treated by both staff and clients: how does the service staff take into account the cultural diversity of the clients? What skills or cultural sensitivities service providers will use in their communication with customers? What language resources the service provider will use to build a position of expertise and competency? How does the service provider respond to customer requests? What is the role of the client in this process? What kind of professional skills does the staff apply to communicate with the customer?

If it is true that cultural aspects and intercultural skills are particularly relevant elements in the hospitality service, there is a risk to consider the cultural dimension as a priori explanatory variable determining peoples' behavior (Blommaert, 1998). In the hotel industry, such a risk tends to become reality when considering "intercultural communication". According to Piller (2011), as intercultural communication focus on how groups communicate together (or how groups have specific communicative practices in the case of "cross-cultural communication") at the same time it postulates "an assumption of cultural differences between distinct groups" (p.8). How argued by Piller (2011), such an assumption of cultural differences between groups is mostly based on stereotypes and generalizations that are "nothing more than an instantiation of banally national ways of seeing" (p.73). In other words, national stereotypes and generalizations tend to smooth traits and to avoid the taking into account other social categories (i.e. gender, class, and age) or interactional aspects likely to influence or intervene in situations of contact between social actors or groups. Thus, if one central function of intercultural communication is to improve communication skills and develop cultural sensitivity it is essential to understand encounters and in particular service encounters beyond cultural stereotypes. According to this, the study of front desk intercultural communication needs a theoretical framework allowing researchers to "ask instead how and under what circumstances concepts such as culture are produced by participants as relevant categories for interpersonal ideological negotiation" (Scollon and Scollon, 2001 in Piller, 2011: 8).

In this paper service encounters are investigated as social interactions in which cultural features are considered one dimension, among others, and become salient only when actors interactionally activate and negotiate such a frame (Goffman, 1974). What real practices customer and employee unfold to deal with interlocutor's perceived or manifested "otherness"? Should those practices be automatically considered as culture-driven? By adopting an interactional perspective (Filliettaz et al.,

2008; Kress et al., 2001) and by taking into account verbal dimensions about one international hotel-based naturally occurring intercultural service encounter in the Geneva area (Switzerland), our contribution aims to highlight the interactional and communicative work that service provider and customer jointly accomplish in order to achieve service transactions.

In relation to this, empirical evidence suggests that cultural generalizations and stereotypes tend to be mobilized by participants not much as an interactional strategy of captation and/or seduction of the customers. Rather as communicative resources enabling the accomplishment of the service transaction. Examples in this sense will be presented and discussed while showing the role of language and linguistic competencies.

# **CUSTOMER INVOLVEMENT, APPROPRIABLE MECHANISM AND INNOVATION PERFORMANCE: EMPIRICAL ANALYSIS FROM TAIWANESE SERVICE FIRMS**

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## **ABSTRACT**

This paper examines the inter-relationships between intensity of customer involvement, appropriable mechanism and innovation performance in service firms. Three major research hypotheses are developed. A dataset of 311 service firms was collected through a postal questionnaire survey of the top 1,103 service firms in Taiwan. Multiple regression models were applied to test these research hypotheses. The results reveal that: (1) intensity of customer involvement is positively correlated to innovation performance; (2) the formal appropriable mechanism is positively correlated to innovation performance; and (3) the appropriable mechanism acts a moderating effect between customer involvement and innovation performance. The paper concludes that the effective use of customer involvement and appropriable mechanisms can improve innovation performance for firms. The joint utilization between high intensity of customer involvement and flexible appropriability strategy is the most desirable when firms profit and improve their new products/ services.

## **INTRODUCTION**

Market orientation provides superior value to customer by facilitating better marketplace performance since firms recognize needs on the basis of customer offerings (Narver & Slater, 1990). Customers cooperate with service providers to contribute valuable ideas and design through the input of effort (Bettencourt, 1997). Customer involvement has been considered a critical factor for successful product and service development (Alam, 2006; Cooper, 2001; Nambisan, 2002). Various intensities and forms of involvement bring results in both product and process innovation benefits, such as product sales and quality improvement (Gales & Mansour-Cole, 1995; Martin & Horne, 1993). Furthermore, an appropriability regime presents a combination of effective means of innovation protection and profitability (Hurmelinna-Laukkanen & Puumalainen, 2007). Multiple appropriable mechanisms can be used simultaneously to protect service innovation due to the heterogeneity of service characteristics and content (Chang, Linton, & Chen, 2012). Appropriability helps prevent knowledge from spilling over to rivals, especially when valuable knowledge is only fully exploited by a firm (Harabi, 1995).

Prior studies have examined effects on new product and service development due to customer involvement (Nambisan, 2002; Prahalad & Ramaswamy, 2000; Salomo, Steinhoff, & Trommsdorff, 2003), and explored association with superior performance (Carbonell, Rodriguez-Escudero, & Pujari, 2009; Feng, Sun, & Zhang, 2010; Fuller & Matzler, 2007; Varki & Wong, 2003). These results have presented a complete view that highly involved customers express more interest in engaging

in relationships with service providers and associating with performance. High intensity customer involvement brings many opportunities to support innovative outcome. However, Goodman, Fichman, Lerch, & Syyder (1995) found an opposite result on the stream of customer involvement research, addressing that “high involvement increases overall dissatisfaction due to dissatisfaction with product performance”. They also argued that customer involvement may be a functional mechanism that is like a double-edged sword for firms. Customer involvement may amplify the synergy to enhance product innovation if service firms perform well, but it will decrease the firm’s performance even though service firms have maintained closer relationships. Subsequently, a number of studies have found similar evidence in accordance with the result of (Goodman et al., 1995), indicating that customer collaboration has an insignificant impact on product innovation (Monjon & Waelbroeck, 2003; Nieto & Santamaria, 2007). Belderbos, Carree, & Lokshin (2004) demonstrated an insignificant association between cooperation with customers and new product sales.

As reviewed the literature, these previous studies have inconsistent findings: some show that these relationships are positive and significant, while others reveal they are negative or insignificant. This ambiguity implies that there exists a potential factor to moderate the relationship between customer involvement and innovation performance. Given that customer involvement is considered to be knowledge base throughout user needs via a collaboration process, prior studies have argued that a sufficient degree of appropriability is required (Arrow, 1962; von Hippel, 1982). Arrow’s concept of appropriability has two meanings: new know-how exploration and innovation protection (Arrow, 1962; Harabi, 1995; Pisano, 1990). Therefore, this study proposes a theoretical framework to examine inter-relationships between intensity of customer involvement, appropriable mechanism, and innovation performance. Thus the current study can make a significant contribution to the literature of how customer involvement facilitates a firm’s innovation and how a service firm combines with appropriable mechanisms to leverage innovation performance.

## THEORY AND HYPOTHESES

### 2.1 Customer involvement

Customer involvement in service innovation is considered the extent to how customers interact with service providers at different stages of new product development process (Alam, 2006; Matthing, Sanden, & Edvardsson, 2004). Specific activities performed by customer involvement are deployed in a study of (Alam & Perry, 2002). Customers are clearly identified to provide a direct input and evaluate each step of production in that study. Based on the previous work, Alam (2002) proposed the intensity of customer involvement as four levels: passive acquisition of input, information and feedback on specific issue, extensive consultation with customers, and representation. Three types of customer involvement were identified by (Kaulio, 1998): design for customers, design with customers, and design by customers. Lettl (2007) considered that customer roles as inventors and co-developers have significant relationship with radical innovation. Blazevic & Lievens (2008) defined three customer coproduction

casts, including passive users, active informers, and bidirectional creators. Kuusisto & Riepula (2011) examined 12 service innovation projects, finding three user roles: customer as catalyst, feedback, and ideal generator. Edvardsson, Kristensson, Magnusson, & Sundstrom (2012) considered resource contextual availability and interaction situation to propose four typical users: the correspondent, the reflective practitioner, the tester, and the dreamer. Overall, these prior studies have highlighted customer roles as a range from passive to proactive involvement that offer different extents of knowledge and value within innovation processes.

Customer involvement has recognized importance in facilitating successful product and service development (Cooper, 2001). A number of empirical studies have discussed the significance of customer involvement in improving the technical quality of innovation and its association with superior performance. Salomo et al. (2003) addressed the positive relationship between customer orientation and product's technical performance. Nambisan (2002) considered customers can be involved not only in generating ideas for new products but also in co-creating with service providers for offering product supports and improvement. Customer involvement is suggested to be integrated into value creation for absorbing their knowledge to enhance competitive advantage (Fuller & Matzler, 2007). Customer engagement is viewed as contributing to the process of delivery of products and services development (Dong, Evans, & Zou, 2008). Fang, Palmatier, & Evans (2008) addressed that customer involvement affects new product value creation by improving the effectiveness of new product development. Carbonell et al. (2009) found that customer involvement has a positive direct effect on technical improvement and indirect impact on competitive superiority and sales performance. Feng et al. (2010) confirmed that customer involvement has positive impact on product quality, delivery, reliability, process flexibility, and customer services. Therefore, this study believes that customer is a critical leverage that effects on innovation performance no matter what the involvement intensifies. The following hypotheses are proposed:

H1a: A utilization of low intensity of customer involvement will be positively correlated to its innovation performance.

H1b: A utilization of high intensity of customer involvement will be positively correlated to its innovation performance.

## 2.2 Appropriable mechanism

Appropriability is a firm's ability to prevent inventions and innovations from imitation and to extract profits from monopolistic opportunities (Breschi & Malerba, 1997; Hanel, 2006). Technological and service innovation are viewed to contribute the valuable knowledge and intellectual property that need to be protected by various methods in order to capture its benefits and create barriers to imitation by competitors (Harabi, 1995; Lopez & Roberts, 2002). Protecting innovations makes it difficult for rivals to copy a firm's distinctive competences and brings sustainable competitive advantage (Reed & DeFillippi, 1990).

A service firm utilizes various effectiveness of different appropriable mechanisms for innovation protection, with both formal and informal methods (Bader, 2008; Hanel, 2006). Traditionally, formal appropriable mechanisms are usually more applicable for physical artifacts, though some prior studies have argued that service innovation may adopt legal methods such as patents against imitation (Bader, 2007, 2008). Howells, Blind, Elder, & Evangelista (2003) presented a theory of knowledge regime to explain why formal appropriability benefits service firms. Two main characteristics are considered in the knowledge regime: the nature of knowledge and the tangibility of output. Patents are better suited to capture the profits from service innovation when these innovations developed are characterized by a high degree of knowledge codification and output tangibility (Miles, 2008). This can include insurance products and software design (Bader, 2008; de Laat, 2005). The main purpose of patenting is to promote technological advances and to facilitate commercialization of patented inventions and technological innovations (Blind, Edler, Frietsch, & Schmoch, 2006). Moreover, some empirical studies have investigated the protection of service innovation with consideration patents usage. For example, Miles, Andersen, Boden, & Howells (2000) considered service intellectual property in the Knowledge-Intensive Business Services (KIBS) sectors and concluded that patenting is a protection instrument for service innovations. Compared to other types of service innovation, knowledge-intensive sectors are more likely to use patenting strategies (Brouwer & Kleinknecht, 1999). Patenting is an increasingly significant protection mechanism for knowledge-intensive services and has a positive impact on new products and service development (Hipp & Grupp, 2005). Patents are generally considered to be an effective method of appropriability for both product and process innovation (Harabi, 1995). These prior studies commonly argue that patents not only provide the legal rights to exclude other firms from using innovations but also offer monopolistic profits from commercialization. As a result, this study believes that a service firm's formal appropriable mechanism - patents are critical to facilitate its firm innovation performance. Drawn from the literature, the following hypothesis is proposed:

H2a: A utilization of formal appropriable mechanism (e.g., patent) will be positively correlated to its innovation performance.

A complementary appropriable mechanism offers an interdependent strategy to reinforce innovation protection rather than the mutual exclusive appropriability usage (Amara, Landry, & Traore, 2008; Chang et al., 2012; Howells et al., 2003; Thoma & Bizer, 2013). Joint appropriable mechanisms with formal and informal methods are efficient ways for knowledge protection (de Faria & Sofka, 2010). This implies that service delivery varies in terms of codified knowledge and tangible output, suitable appropriable mechanisms also vary (Amara et al., 2008; Howells et al., 2003). Having considered the role of formal appropriability, informal appropriability is now extended.

Teece (1986) proposed the Profiting from Innovation (PFI) model to provide the complementary assets to protect innovation. The PFI model considers that a successful commercialization of innovation requires the know-how conjunction to ensure better service offering. For example,

computer hardware typically needs software for the operation system and applications. The commercialization of products requires specialized information for distribution channels. This can offer codified products in a package, combined with software services or after-sales support as an informal method to make it difficult imitate. Lock-in tactics use a set of specific standards and protocol services with tangible product combination to make it hard switch (Andersen, Howells, Miles, & Roberts, 2003). Some empirical studies show that lock-in strategies are a useful mechanism (Hipp & Herstatt, 2006). KIBS firms are more likely utilize the lock-in membership associations that focus on reducing learning time and increasing interoperability of products (Miles et al., 2000). Scale-intensive physical network firms (e.g., retailing and wholesale firms) often use confidential quality standards to lock-in customer loyalty for homogeneous products with average quality (Blind & Hipp, 2003; Tether, Hipp, & Miles, 2001). Therefore, this study believes that a service firm's informal appropriable mechanism – lock-in tactics are critical to facilitate its innovation performance. The following hypothesis is proposed:

H2b: A utilization of informal appropriable mechanism (e.g., lock-in tactic) will be positively correlated to its innovation performance.

### 2.3 The moderating effect of appropriable mechanism

From the strategic management literature, the relationship between knowledge base and innovation performance, the formal appropriable mechanism plays a critical role to help develop new products or improve existing ones (Blind et al., 2006; Cohen, Goto, Nagata, & Nelson, 2002). Specifically, a firm can utilize appropriability to approach certain markets and prevent imitation by competitors while new products are developed or existing products are improved by taking advantage of its knowledge base. In contrast, a firm can be reluctant to grant competitors access to their innovation, since the inadequate appropriability exists. The appropriable mechanism helps a firm have an interest in gaining access to both the specific and general know-how, but also in restricting competitors from using them (Pisano, 1990). Appropriability is a mechanism for capturing benefit from non-embodied innovation knowledge (von Hippel, 1982). Appropriability regimes are the most critical contextual factors that moderate a firm's ability to absorb a knowledge base in new product development (Xu, Huang, & Gao, 2012). As a result, the formal appropriable mechanism can help a firm have positive impact on the relationship between customer involvement and firm's innovation performance. Thus, the following hypothesis is proposed:

H3a: Formal mechanism of appropriability (e.g., patent) will be moderated with the relationship between customer involvement and innovation performance.

Similarity, the informal appropriable mechanism that is like the formal one in that it offers a series of strategies to make it difficult for rivals to learn arises from a moderating role on the relationship between customer involvement and firm's innovation performance. Thus, the following hypothesis is proposed:

H3b: Informal mechanism of appropriability (e.g., lock-in tactic) will be moderated with the relationship between customer involvement and innovation performance.

Figure 1 is the research framework of this study.

## METHODOLOGY

### 3.1 Sample and Data Collection

In this paper, the empirical study used Taiwanese top service firms and total complete samples out of 1,103 service populations were drawn from two data lists: China Credit Information Service 2009 and Global View Monthly 2009. All service firms were randomly selected by a sampling procedure that considered six core service sectors: restaurants, public services, retailing, finance, telecom services, technical and specialized

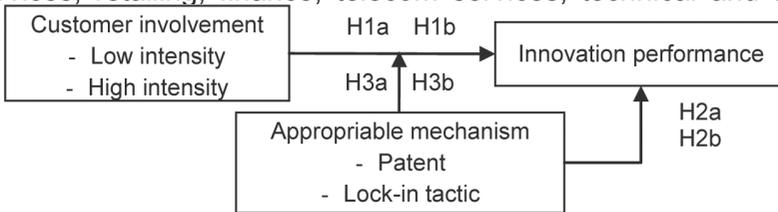


Figure 1: Research framework

services. Table 1 shows the specific service sectors, total population, and sample of respondents. Using a postal questionnaire exercise, a firm-level survey instrument was mailed to each general manager or department leader in charge of service innovation. Respondents were asked to review several service innovation activities for the previous three years of 2007 – 2009.

'A total of 311 valid questionnaires were collected for a response rate of 28.2%. To be sure of external generalizability, a non-response bias test was examined (Armstrong & Overton, 1977). Table 1 compares the distributions of respondents and non-respondents by service sectors. The chi-square coefficient ( $\chi^2$ ) of 16.67 and p-value of 0.34 do not reach significant difference at 5 % level (see Table 1), implying that the goodness-of-fit test is not significantly different between respondents and non-respondents by service sectors, and indicating that non-response bias does not influence the final analysis. The share of firms by each sector is follows: leading 73 wholesale firms (23.47%), following 29 financial firms (9.32%), 25 IC design firms (8.04%), 25 electronic engineering firms (8.04%), 23 construction firms (7.40%), 23 specialized service firms (7.40%), 19 transport and retailing (6.11%), 18 computer and software firms (5.79%), 15 system integration firms (4.82%), 12 insurance firms (3.86%), 11 public and social service firms (3.54%), 10 real estate firms (3.22%), 8 hotel and restaurant firms (2.57%), 8 health service firms (2.57%), 8 technical service firms (2.57%), and 4 telecommunications firms (1.29%).

Table 1 Respondents by specific sectors and Goodness-of-fit test

Core	Specific sectors	Population (%)	Respondents (%)	Goodness - of-fit test
Restaurant	Hotel and restaurant	33 (2.99)	8 (2.57)	$\chi^2 = 16.666$ p= 0.339
Public services	Health services	31 (2.81)	8 (2.57)	
	Public and social services	28 (2.54)	11 (3.54)	
Retailing	Transport and retailing	82 (7.43)	19 (6.11)	
	Wholesale	287 (26.02)	73 (23.47)	
Finance	Finance	116 (10.52)	29 (9.32)	
	Insurance	51 (4.62)	12 (3.86)	
Telecomm	Telecommunications	17 (1.54)	4 (1.29)	
Technical & specialized services	Technical service	28 (2.54)	8 (2.57)	
	Real estate	41 (3.72)	10 (3.22)	
	Electronic engineering	96 (8.70)	25 (8.04)	
	Computer and software	62 (5.62)	18 (5.79)	
	System integration	28 (2.54)	15 (4.82)	
	IC design	61 (5.53)	25 (8.04)	
	Construction	65 (5.89)	23 (7.40)	
	Specialized services	77 (6.98)	23 (7.40)	
	Total	1103 (100)	311 (100)	

\*p<0.05, \*\*p<0.01, \*\*\*p<0.001

## RESULTS

Table 2 shows the descriptive statistics and correlations analysis for all variables. The correlation coefficients in Table 2 indicate that no multicollinearity effect exists among variables since there is no correlation coefficient reaching 0.60. To further check the extent of multicollinearity, the variance inflation factor (VIF) tests are examined. The VIFs are shown in a range from 1.009 to 2.470, which are significantly under the cutting point of 10, indicating that the multicollinearity is not problematic in our models.

Table 3 shows the results of regression models examining the relationships among low intensity of customer involvement, high intensity of customer involvement, formal appropriable mechanism, informal appropriable mechanism, and innovation performance. Models 1 to 7 consider amount of NPD/NSD as a measure of the dependent variable. Model 2 and Model 5 mainly focus on main effects of low and high intensities of customer involvement and different appropriable mechanisms: patent and lock-in tactic. Model 3, Model 4, Model 6, and Model 7 identify the interaction effects between appropriable mechanisms and two different intensities of customer involvement. All regression models are statistically significant at 5% level (F=5.591 to 7.257, p<0.05). In Model 1 of control variables, firm size has significant effect on the amount of NPD/NSD but the other of independent variables- firm age as well as firm type do not significantly influence the dependent variable.

Hypothesis 1a predicts that a utilization of low intensity of customer involvement will be positively correlated to its innovation performance. Model 2 and Model 5 show the statistically positive impact of low intensity of CI on the amount of NPD/NSD ( $F=6.772^{***}$ ,  $p<0.001$ ,  $\beta=0.158^{**}$  and  $F=5.985^{***}$ ,  $p<0.001$ ,  $\beta=0.151^{**}$ ), so Hypothesis 1a is supported. Moreover, Hypothesis 1b indicates that a utilization of high intensity of customer involvement will be positively correlated to its innovation performance. Model 2 and Model 5 show the statistically positive influence of high intensity of CI on the amount of NPD/NSD ( $F=6.772^{***}$ ,  $p<0.001$ ,  $\beta=0.247^{***}$  and  $F=5.985^{***}$ ,  $p<0.001$ ,  $\beta=0.250^{***}$ ). Therefore, Hypothesis 1b is also supported. In particular, the coefficients of high intensity of CI are greater than those of low intensity of CI, as shown in Model 2 and Model 5 ( $\beta=0.247 > \beta=0.158$  in Model 2 and  $\beta=0.250 > \beta=0.151$  in Model 5). This indicates that high intensity of customer involvement has more impact than low intensity involvement on innovation performance.

Hypothesis 2a predicts that a utilization of formal appropriable mechanism (e.g., patent) will be positively correlated to its innovation performance, and Model 2 presents positive influence of patent on the amount of NPD/NSD ( $F=6.772^{***}$ ,  $p<0.001$ ,  $\beta=0.137^*$ ). Therefore, Hypothesis 2a is supported. However, Hypothesis 2b indicates that a utilization of informal appropriable mechanism (e.g., lock-in tactic) will be positively correlated to its innovation performance, but Model 5 finds no significant effect of lock-in tactic on the amount of NPD/NSD ( $F=5.985^{***}$ ,  $p<0.001$ ,  $\beta=0.077$ ). Therefore, Hypothesis 2b is not supported. These two results show that formal appropriable mechanism is more important than the informal one in supporting innovation performance.

Hypothesis 3a and Hypothesis 3b consider the moderating role of appropriable mechanisms on the relationship between two intensities of customer involvement and firm's innovation performance. The  $R^2$ -value of 0.144 of Model 4 is higher than that of Model 2 as 0.118, and the value of Model 7 of 0.130 is also greater than 0.106 as Model 5. This indicates that the interaction terms should be considered in explaining firms' performance. The analysis results on the basis of models considering the interaction effect is further interpreted. Hypothesis 3a predicts that the formal mechanism of appropriability (e.g., patent) will be moderated with the relationship between customer involvement and innovation performance. In Model 3, the regression coefficient of the interaction term between patent and low intensity of CI is not statistically significant ( $\beta=-0.012$ ). However, in Model 4, the regression coefficient of the interaction term between patent and high intensity of CI is positive and statistically significant ( $\beta=0.252^{**}$ ). These results are inconsistent so that Hypothesis 3 is partially supported. Thus, the regression coefficients of the interaction term in high intensity of customer involvement have greater impact and are more significant than ones in low intensity. This indicates that the high intensity of CI interaction with appropriable mechanisms has more influence on innovation performance than the low intensity of CI does.

Hypothesis 3b predicts that the informal mechanism of appropriability (e.g., lock-in tactic) will be moderated with the relationship between customer

involvement and innovation performance. In Model 6, the regression coefficient of the interaction term between lock-in tactic and low intensity of CI is positive and statistically significant ( $\beta=0.104+$ ). Furthermore, the regression coefficient of the interaction term between lock-in tactic and high intensity of CI is positive and significant in Model 7 ( $\beta=0.528^{**}$ ). Thus, Hypothesis 3b is fully supported, indicating that greater use of lock-in tactic increases the relationship between customer involvement and innovation performance.

Table 2 Descriptive statistics and correlation analysis

Variables	Mean	Std.	1	2	3	4	5	6	7	8
1 Firm size	4.65	2.34	1.000							
2 Firm age	4.50	1.53	0.089	1.000						
3 Firm type	6.87	2.32	-0.257*	-0.114*	1.000					
4 Low CI	4.00	1.70	0.294**	-0.076	-0.221**	1.000				
5 High CI	2.98	1.55	0.055	-0.041	-0.021	0.340**	1.000			
6 Lock-in	17.55	97.86	-0.053	0.008	-0.137*	0.023	-0.080	1.000		
7 Patent	3.69	19.23	0.125**	-0.060	0.111	-0.014	-0.024	-0.003	1.000	
8 Amount of NPD	2.15	1.72	0.137*	-0.023	-0.030	0.213**	0.272**	0.049	0.140*	1.000

\* $p < 0.05$ , \*\* $p < 0.01$ , \*\*\* $p < 0.001$

Table 3 Regression results

DV: Amount of NPD/NSD

Variables	Amount of NPD/NSD						
	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7
Intercept	1.842***	1.856***	1.853***	1.837***	1.652***	1.587***	1.653***
Firm size	0.141*	0.075	0.075	0.069	0.107 <sup>+</sup>	0.111 <sup>+</sup>	0.107 <sup>+</sup>
Firm age	-0.036	-0.004	-0.003	0.003	-0.013	-0.008	-0.014
Firm type	0.002	0.003	0.003	-0.006	0.035	0.036	0.020
Low CI, (LCI)		0.158**	0.161**	0.163**	0.151**	0.127*	0.140*
High CI, (HCI)		0.247***	0.247***	0.194***	0.250***	0.257***	0.195***
Patent, (PA)		0.137*	0.141*	0.324***			
Lock-in, (LO)					0.077	0.117*	0.571***
PA x LCI			-0.012				
PA x HCI				0.252**			
LO x LCI						0.104 <sup>+</sup>	
LO x HCI							0.528**
<b>MODEL FIT</b>							
N	311	311	311	311	311	311	311
F	2.108 <sup>+</sup>	6.772***	5.792***	7.257***	5.985***	5.591***	6.479***
R <sup>2</sup>	0.020	0.118	0.118	0.144	0.106	0.114	0.130

## CONCLUSION

This study offers critical insights on how customer involvement facilitates innovation performance and how a service firm can combine with appropriability to leverage the innovation performance. Three distinctive results are revealed in this paper: 1) A service firm with intensity of customer involvement is positively correlated to innovation performance. 2) A service firm that utilizes formal appropriable mechanisms is positively correlated to innovation performance. 3) The firm's appropriability regime acts a moderating effect between customer involvement and innovation performance. In summary, customer involvement can be considered as a critical means for combining innovation commitments and participation in order to successfully enhance a firm's innovation performance. High intensity of customer involvement utilization needs to focus on flexible appropriability arrangements while new product development is mainly considered.

Two managerial implications for improving innovation performance in services are suggested. First, it is clear that customer involvement is positively correlated to a firm's innovation performance. This offers insights for product and marketing managers who understand that customer involvement in new product development will lead to increased innovation performance. Both low and high intensity of customer involvement should be considered to achieve superior innovation performance. High intensity of customer involvement is needed to be further applied though it is not easy to conduct due to a superior commitment for both customers and service providers. A fine-designed mechanism and reward system may be in place for implementing to develop high intensity of involvement. Second, this paper confirms that appropriability plays a moderating role between customer involvement and innovation performance, and its interaction with high intensity of customer involvement has greater impact on innovation performance than low intensity involvement. Service firms should actively invest the appropriable mechanisms developing to protect their innovations including formal and informal ones. Appropriability can not only assist service firms in developing know-how but also help protect against imitation by rivals while service firms are benefiting from customer involvement. This is beneficial for service firms, especially high intensity of customer involvement utilization and significant product innovation enhancement.

There are certain limitations to this study. For one, this study examines only service firms in the Taiwanese context. Although the chi-square test is conducted to testify external generalizability, the analysis results should be generalized only to Taiwanese service firms. This implies that comparisons of multiple countries should be further conducted in the future. Another limitation is that this study uses the cross-sectional data to measure a firm's innovative activities, though some measurements may not be easily collected and not explicitly revealed in the questionnaire form, for example, service R&D expenditure. The data would be enriched if secondary data were also considered. Finally, since this study is based on a cross-sectional survey, we still have limited details about how a service firm innovates. A future study conducted in longitudinal examination may contribute more in

understanding innovation in service industries.

## REFERENCES

- Alam, I. (2002). An exploratory investigation of user involvement in new service development. *Journal of the Academy of Marketing Science*, 30(3), 250-261.
- Alam, I. (2006). Removing the fuzziness from the fuzzy-end of service innovations through customer interactions. *Industrial Marketing Management*, 35(4), 468-480.
- Alam, I., & Perry, C. (2002). A customer-oriented new service development process. *Journal of Services Marketing*, 16(6), 515-535.
- Amara, N., Landry, R., & Traore, N. (2008). Managing the protection of innovations in knowledge-intensive business services. *Research Policy*, 37(9), 1530-1547.
- Andersen, B., Howells, J., Miles, I., & Roberts, J. (2003). Innovation and Protection in the Service Industries. In K. Blind, J. Elder, U. Schmoch, B.
- Andersen, J. Howells, I. Miles, J. Roberts, L. Green, R. Evangelista, C. Hipp & C. Herstatt (Eds.), *Patent in the Service Industries* (pp. 15-43): Fraunhofer Institute Systems and Innovation Research.
- Armstrong, J. S., & Overton, T. S. (1977). Estimating nonresponse bias in mail surveys. *Journal of Marketing Research*, 14(3), 396-402.
- Arrow, K. J. (1962). Economic welfare and the allocation of resources for invention. In R. Nelson (Ed.), *The Rate and Direction of Inventive Activity: Economic and Social Factors* (pp. 609-626): Princeton.
- Bader, M. A. (2007). Extending legal protection strategies to the service innovations area: review and analysis. *World Patent Information*, 29, 122-135.
- Bader, M. A. (2008). Managing intellectual property in the financial services industry sector: learning from Swiss Re. *Technovation*, 28(4), 196-207.
- Belderbos, C., Carree, M., & Lokshin, B. (2004). Cooperative R&D and firm performance. *Research Policy*, 33(10), 1477-1492.
- Bettencourt, L. (1997). Customer voluntary performance: customers as partners in service delivery. *Journal of Retailing*, 73(3), 383-406.
- Blazevic, V., & Lievens, A. (2008). Managing innovation through customer coproduced knowledge in electronic services: an exploratory study. *Journal of Academy of Marketing Science*, 36(1), 138-151.
- Blind, K., Edler, J., Frietsch, R., & Schmoch, U. (2006). Motives to patent: empirical evidence from Germany. *Research Policy*, 35(5), 655-672.

Blind, K., & Hipp, C. (2003). The role of quality standards in innovative service companies: an empirical analysis for Germany. *Technological Forecasting & Social Change*, 70(7), 653-669.

Breschi, S., & Malerba, F. (1997). Sectoral innovation systems: technological regimes, Schumpeterian dynamics, and spatial boundaries. In C. Edquist (Ed.), *Systems of Innovation: Technologies, Institutions and Organizations*: Routledge.

Brouwer, E., & Kleinknecht, A. (1999). Innovative output, and a firm's propensity to patent: an exploration of CIS micro data. *Research Policy*, 28(6), 615-624.

Carbonell, P., Rodriguez-Escudero, A. I., & Pujari, D. (2009). Customer involvement in new service development: an examination of antecedents and outcomes. *Journal of Product Innovation Management*, 26(5), 536-550.

Chang, Y. C., Linton, J. D., & Chen, M. N. (2012). Service regime: an empirical analysis of innovation patterns in service firms. *Technological Forecasting and Social Chang*, 79(9), 1569-1582.

Cohen, W. M., Goto, A., Nagata, A., & Nelson, R. R. (2002). R&D spillovers, patents and the incentives to innovate in Japan and the United States. *Research Policy*, 31(8-9), 1349-1367.

Cooper, R. G. (2001). *Winning at New Products: Accelerating the Process from Idea to Launch*. Cambridge, MA: Perseus.

de Faria, P., & Sofka, W. (2010). Knowledge protection strategies of multinational firms: a cross-country comparison. *Research Policy*, 39(7), 956-968.

de Laat, P. B. (2005). Copyright or copyleft: an analysis of property regimes for software development. *Research Policy*, 34(10), 1511-1532.

Dong, B., Evans, K. R., & Zou, S. (2008). The effects of customer participation in co-created service recovery. *Journal of Academy Marketing Science*, 36(1), 123-137.

Edvardsson, B., Kristensson, P., Magnusson, P., & Sundstrom, E. (2012). Customer integration within service development- a review of methods and an analysis of insitu and exsitu contributions. *Technovation*, 32(7-8), 419-429.

Fang, E., Palmatier, R. W., & Evans, K. R. (2008). Influence of customer participation on creating and sharing of new product value. *Journal of Academy Marketing Science*, 36(3), 322-336.

Feng, T., Sun, L., & Zhang, Y. (2010). The effects of customer and supplier involvement on competitive advantage: an empirical study in China. *Industrial Marketing Management*, 39(8), 1384-1394.

Fuller, J., & Matzler, K. (2007). Virtual product experience and customer participation: a chance for customer-centred, really new products. *Technovation*, 27(6-7), 378-387.

Gales, L., & Mansour-Cole, D. (1995). User involvement in innovation projects. *Journal of Engineering and Technology Management*, 12(1-2), 77-109.

Goodman, P. S., Fichman, M., Lerch, F. J., & Syder, P. R. (1995). Customer-firm relationship, involvement, and customer satisfaction. *Academy of Management Journal*, 37(5), 1310-1324.

Hanel, P. (2006). Intellectual property rights business management practices: a survey of the literature. *Technovation*, 26(8), 895-931.

Harabi, N. (1995). Appropriability of technical innovations: an empirical analysis. *Research Policy*, 24(6), 981-992.

Hipp, C., & Grupp, H. (2005). Innovation in the service sector: The demand for service-specific innovation measurement concepts and typologies. *Research Policy*, 34(4), 517-535.

Hipp, C., & Herstatt, C. (2006). Service innovation, user involvement and intellectual property management. In B. Edvardsson, A. Gustafsson, P.

Kristensson, P. Magnusson & J. Matthing (Eds.), *Innovation customers in new service development* (pp. 269-280). London: Imperial College Press.

Howells, J., Blind, K., Elder, J., & Evangelista, R. (2003). Knowledge regimes, appropriability and intellectual property protection: a conceptual framework for services. In K. Blind, J. Elder, U. Schmoch, B. Andersen, J. Howells, I. Miles, J. Roberts, L. Green, R. Evangelista, C. Hipp & C. Herstatt (Eds.), *Patents in the Service Industries: Fraunhofer Institute Systems and Innovation Research*.

Hurmelinna-Laukkanen, P., & Puumalainen, K. (2007). Nature and dynamic of appropriability: strategies for appropriating returns on innovation. *R&D Management*, 37(2), 95-112.

Kaulio, M. A. (1998). Customer, consumer and user involvement in product development: a framework and a review of selected methods. *Total Quality Management*, 9(1), 141-149.

Kuusisto, A., & Riepula, M. (2011). Customer interaction in service innovation: seldom intensive but often decisive. Case studies in three business service sectors. *International Journal of Technology Management*, 55(1-2), 171-186.

Lettl, C. (2007). User involvement competence for radical innovation. *Journal of Engineering and Technology Management*, 24(1-2), 53-75.

Lopez, L. E., & Roberts, E. B. (2002). First-mover advantages in regimes

- of weak appropriability: the case of financial services innovation. *Journal of Business Research*, 55(12), 997-1005.
- Martin, C., & Horne, D. A. (1993). Service innovation: successful vs. unsuccessful firms. *International Journal of Service Industry Management*, 4(1), 49-65.
- Matthing, J., Sanden, B., & Edvardsson, B. (2004). New service development: learning from and with customers. *International Journal of Service Industry Management*, 15(5), 479-498.
- Miles, I. (2008). Patterns of innovation in service industries. *IBM Systems Journal*, 47(1), 115-128.
- Miles, I., Andersen, B., Boden, M., & Howells, J. (2000). Service production and intellectual property. *International Journal of Technology Management*, 20(1/2), 95-115.
- Monjon, S., & Waelbroeck, P. (2003). Assessing spillovers from universities to firms: evidence from firm-level data. *International Journal of Industrial Organization*, 21(9), 1255-1270.
- Nambisan, S. (2002). Designing virtual customer environments for new product development: toward a theory. *Academy of Management Review*, 27(3), 392-413.
- Narver, J. C., & Slater, S. F. (1990). The effect of a market orientation on business profitability. *Journal of Marketing*, 54(4), 20-35.
- Nieto, M. J., & Santamaria, L. (2007). The importance of diverse collaborative networks for the novelty of product innovation. *Technovation*, 27(3), 367-377.
- Pisano, G. P. (1990). The R&D boundaries of the firm: an empirical analysis. *Administrative Science Quarterly*, 35(1), 153-176.
- Prahalad, C. K., & Ramaswamy, V. (2000). Co-opting customer competence. *Harvard Business Review*, 78(1), 79-87.
- Reed, R., & DeFillippi, R. J. (1990). Causal ambiguity, barriers to imitation, and sustainable competitive advantage. *Academy of Management Review*, 15(1), 88-102.
- Salomo, S., Steinhoff, F., & Trommsdorff, V. (2003). Customer orientation in innovation projects and new product development success: the moderating effect of product innovativeness. *International Journal of Technology Management*, 26(5-6), 442-463.
- Teece, D. (1986). Profiting from technological innovation: implications for integration, collaboration, licensing and public policy. *Research Policy*, 15(6), 285-305.
- Tether, B. S., Hipp, C., & Miles, I. (2001). Standardization and

particularization in services: evidence from Germany. *Research Policy*, 30(4), 1115-1138.

Thoma, J., & Bizer, K. (2013). To protect or not to protect? modes of appropriability in the small enterprise sector. *Research Policy*, 42(1), 35-49.

Varki, S., & Wong, S. (2003). Consumer involvement in relationship marketing of services. *Journal of Service Research*, 6(1), 83-91.

von Hippel, E. (1982). Appropriability of innovation benefit as a predictor of the sources of innovation. *Research Policy*, 11(1), 95-115.

Xu, K., Huang, K. F., & Gao, S. (2012). Technology sourcing, appropriability regimes, and new product development. *Journal of Engineering and Technology Management*, 29(2), 265-280.

# **CUSTOMER-SUPPORT SERVICE FROM A RELATIONSHIP PERSPECTIVE - BEST PRACTICE FOR TELECOM**

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## **ABSTRACT**

Customer support in companies today is differently outlined in comparison to the situation one decade ago; still phone calls or messages over Internet are most common. However, most research on the topic show customers being dissatisfied with the service they receive under the label of customer-support.

## **INTRODUCTION**

In order to find an innovative solution we apply the logic of best practice for the development of customer-support service. The concept of best practice has its origin in the management area (Bloom and van Reenen 2010).

The phenomenon customer-support service should not only rely on the technique (Schultze, 2003); its deeper role in the customer relationships should be of importance when designing and maintaining the function in companies. In other words, it is an important dimension of service quality, when service is seen as a perspective instead of a structured issue on business (Loveloock and Gummesson, 2004).

Based on this view the guideline, when dealing with customer-support service in companies, would preferable be service as a perspective (Edvardsson and Roos 2008). Therefore, the definition of customersupport service in this study is “the company function that is designed to support customers on different matters, by taking the relationship strength into consideration, and regard and relate the service to the mission of the company”.

The purpose of the study is to find out the best-practice of customersupport service in the telecom industry, from the customers’ and relationship perspective, by asking customers to compare different services and compose the content of the customer-support service accordingly.

## **BEST PRACTICE IN SERVICE FROM THE RELATIONSHIP PERSPECTIVE**

In 2008 Roos and Edvardsson pointed out the importance of customers’ perceptions of customer-support service in telecom for the design of the function. The study implied that customers do not separate supportservice from their relationships in general. In the relationship perspective on the best practice of customer support we therefore include literature on the consumption process in order to position our approach. Löfgren (2005) elaborates on the consumption process by dividing it into two major parts;

the first and second moments of truth. The first moment of truth includes the buying decision process and the second moment of truth the remainder of the consumption process. Customer-support service is part of the second moment of truth, while the unsuccessful and discontinued relationship is a part of the first part.

Complaining behavior as a dimension of customer relationships

We continue on the concept of unsuccessfulness of the customer-support service. Johnston (2004) refers to complaining behavior in companies as “acid tests of service” meaning that the function in companies, which is designed for customer contacts, should serve its proper purpose.

Switching behavior; the outcome of malfunctioning customer relationships

Keaveney (1995) presented findings generalizable across service industries, which relates well to the purpose of the present study, where a best practice is in focus based on a comparison between services. Repetitiveness of customer-support failures seems to be frequently occurring switching reasons in customer relationships (Roos and Edvardsson 2008).

## EMPIRICAL STUDY

In order to find a best practice for customer-support service function in telecom we interviewed students from nine different countries in a Swedish university regarding their customer-support experiences. The interviews were analyzed according to content analysis. Graneheim and Lundman (2004) suggest a specific procedure for conduction content analysis including: full text, meaning bearing, themes formulation.

In the present analysis we do not only search for clear categories but for best practice regarding customer-support service.

## RESULTS – BEST PRACTICE FOR A TELECOM CUSTOMERSUPPORT FUNCTION

Generally, the respondents consider banks to have the best customersupport service.

The results of the search for a best practice regarding customer-support service have five foci, (1) Identification of customers in connection to customer support, (2) Availability of Internet customer support, (3) Proactiveness, (4) Inter-activeness for full understanding and (5) Queues, based on the interviews in this study.

1. Customer identification in connection to customer support
  - Club membership should lead to a privileged customer support
  - Customers’ language
2. Internet customer support availability
  - Technical support should be available 24/7.
  - In telecom shops or support centers; customers coming into the sup

port center personally should be served before customers phoning the center.

### 3. Pro-activeness

- Customers in this sample mean that it is important that customer support contact persons clearly respond to customers' posed questions and situations. If the phone call, for example drops, it is important to phone back from the customer support.
- One link that suggest different sub-links, e.g., subscriptions, bills, international, technical problems or other.
- Rapid response.

### 4. Inter-activeness for full understanding

- Telecom operators' customer-support function should connect easily to Social networks.

### 5. Queues

- Telecom operators should design the customer-support function in order to avoid queue building. The customers frequently mentioned too long queues. Customer suggested the phone waiting time not exceed 5 minutes and at desk not to exceed 3 minutes. Customers connected often too long queues to switching behavior

## DISCUSSION

The results of the study indicate thus that support service is not integrated fully in the management of customer relationships but assigned the technical departments of the companies as a technical solution. Taking the customers' perspective would, for example, imply a higher differentiation regarding both categorization of incoming problems conveyed by customers and a rapid handling of all incoming issues.

## REFERENCES

Graneheim, U. H. and Lundman, B. (2004). Qualitative Content Analysis in Nursing Research: Concepts, Procedures and Measures to Achieve Trustworthiness. *Nurse Education Today*, 24(2), pp. 105-112.

Keaveney, S. M. (1995). Customer Switching Behavior in Service Industries: An Exploratory Study. *Journal of Marketing*, 59(2), pp. 71-82.

Roos, I. and Edvardsson, B. (2008). Customer-support Service in the Relationship Perspective. *Managing Service Quality*, 18(1), pp.87-107.

Löfgren, M. (2005). Winning at the First and Second Moments of Truth: An Exploratory Study. *Managing Service Quality*, 15(1), pp. 102-115.

Johnston, R. (2004). Towards a Better Understanding of Service Excellence. *Managing Service Quality*, 14(2/3), pp. 129-133.

Lovelock, C. and Gummesson, E. (2004). Whither services marketing? In search of a new paradigm and fresh perspectives. *Journal of Service Research*, 7(1), pp. 20-41.

Schultze, U. (2003). Complementing self-serve Technology with Service Relationships: Customer Perspective. *E-service Journal*, 3(1), pp. 7-31.

Bloom, N. and van Reenen, J. (2010) Why Do Management Practices Differ across Firms and Countries?. *Journal of Economic Perspectives*, 24(1), pp. 203–224.

# DESIGN THINKING IN PUBLIC PROCURED CONTRACT – IS IT POSSIBLE?

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## ABSTRACT

The tension between the increased demands on innovation, the use of design thinking for innovation when prerequisite for the service is stipulated in a contract is investigated. In the study context the service is public procured and stipulations in the contracts brings legal consequences to the innovations process. Insights how the tensions between design thinking and contract research can be used in order to create and better understand how new innovative service can be created is provided. The extended abstract ends with proposing research questions.

## INTRODUCTION

The complex requirements of today's public sector frequently require new innovative services that reach far beyond organizations' own capacity and control. The interactive nature of value-creation (Vargo and Lusch 2004; 2008), as defined and perceived by the customer in-context, is not limited by organizational resources. Instead, service is often provided via complex combinations of actors, physical goods and information within and between organizations (Vargo and Lusch 2008).

This is a challenge within public contexts, where there is a demand for finding new ways of creating innovative services, with limited financial and personal resources. When the service is public procured stipulations in the contract bring legal dimensions to business relationship, innovation process and the service. At the same time there is an increasing interest in finding ways to involve the customers (citizens) in the public innovations processes for understanding the contextual situation. Design thinking has recently been shown to be an effective approach for such involvement (Blyth et al., 2011). This indicates that there is a contradictory situation. The service should be co-created and co-innovated exploring possible solutions, simultaneously there are constraints when the service is public procured. The prerequisite for the service and the potential innovation process are stipulated in contracts where there are few possibilities to change the content of the contract during the contract period.

Therefore, the aim with this study is to explore the tension when using design thinking in public procured contracts and thereby the procured service in order to create innovative services. In a wider perspective, the aim is to connect the theoretical areas of design thinking and contracts with the service research.

# INNOVATION, DESIGN THINKING AND CONTRACTS IN THE PUBLIC SECTOR

Benington and Hartley (2001) have characterized three competing paradigms with implications for innovation in public sector; ‘Traditional’ public administration, ‘New’ public management and Networked governance. The three paradigms co-exist, and are to some extent competing. However, in this paper we will focus on the third, networked governance since it aligns with the ideas of people centered innovation, open ended process in design thinking and the emerging patterns we see in society as it is “based on evidence of emerging patterns of governance and service delivery, which we call ‘citizen-centred governance’, or ‘networked governance’.” (Hartley 2005:29). See figure 1.

Figure 1: Innovation and improvement in different conceptions of governance and public management (Hartley 2005:29).

	<i>‘Traditional’ public administration</i>	<i>‘New’ Public Management</i>	<i>Networked governance</i>
<i>Innovation</i>	Some large-scale, national and universal innovations	Innovations in organizational form more than content	Innovation at both central and local levels
<i>Improvement</i>	Large step-change improvements initially, but less capability for continuous improvement	Improvements in managerial processes and systems. Customer focus produces quality improvements in some services	Aiming for both transformational and continuous improvement in front-line services
<i>Role of policy-makers</i>	Commanders	Announcers/ commissioners	Leaders and interpreters
<i>Role of public managers</i>	‘Clerks and martyrs’	Efficiency and market maximizers	‘Explorers’
<i>Role of the population</i>	Clients	Customers	Co-producers

Design thinking as a creative asset for innovation is recognized both for private and public sector. With roots in descriptions of designer’s profession based in artistic practices the early 2000’s brought forward an interest in design thinking as an approach for non-design trained professionals (Kimbell 2012) In the latter mainly as an approach for problem solving advocating human-centered, participatory, iterative and highly visual processes. And the scope of design has moved from e.g., artifacts, interactions and service-scapes to reformulating public and social systems.

However, as proposed by Blyth and colleagues (2012) argue the real contributing of design in public sector is the capability to reframe

the problem to be solved. Further design thinking is characterized of encouraging fuzzy front-end processes, proposing possible solutions, and prototyping throughout the process for learning rather than testing purposes. In summary, applying design thinking for innovation implies an open ended process where the solution is not known from the start but is developed and reconfigured throughout the process. When a service is public procured an open process as suggested above is not possible. Instead the procurement process need to follow the legal rules stipulated in the Public Procurement Act. An intriguing consequence is that stipulations in the contract bring legal consequences for the business relationship as well as the service and service process. Previous research (Camén 2011) argues that rigid and excessive specifications of the contract bring forward inflexibility and few possibilities to act in a flexible and customer-oriented manner. Still the contract as a result of a public procured process is very detailed specified with many constrains, and there are also no or few possibilities to change the contract's content during the running time. A contract can thereby hinder the parties to become innovative and creative.

## CONCLUSION

Previous service research has not paid much attention to issues related specifically to innovation capacity through contracts, nor to contracts in relation to the nature of service. Traditionally service research has regarded design as a specific phase of development rather than as a mindset that permeates the innovation process. This study fills a research gap in the service research by examining the tension between the increased demands on innovation, the use of design thinking for innovation when the prerequisite for the service is stipulated in a contract. We propose accordingly two research questions as directions for further development of this study.

1. Is it possible to public procure the innovative process per se but not the outcome?
2. In what ways can public procurement include design thinking as a forward oriented process, understanding the present for suggesting and visualizing futures?

## REFERENCES

Blyth, S., Kimbell, L., & Haig, T. (2011), *Design Thinking and the Big Society: From solving personal troubles to designing social problems*. Actant and Taylor Haig, London.

Camén, C., (2011), *Using contracts to manage Services – a study of contracts in public transport*, Dissertation, Karlstad University Studies 2011:20.

Hartley, J., (2005), "Innovation in Governance and Public Services: Past and Present", *Public Money and Management*, 25 (1),27-34.

Kimbell, L. (2012), "Rethinking Design Thinking: Part II". *Design and Culture* 4 (2), 129-148.

Vargo, S.L. and Lusch, R.F., (2004), "Evolving to a new dominant logic of marketing", *Journal of Marketing*, 68 (1) 1–17.

Vargo, S.L. and Lusch, R.F., (2008), "Service-dominant logic: continuing the evolution", *Journal of the Academy of Marketing Science*, 36 (1) 1-10.

# DESIGNERS UNITE! BRIDGING SERVICE DESIGN WITH INTERACTION DESIGN THROUGH EXTENDED SERVICE BLUEPRINTING

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## ABSTRACT

Services are increasingly technology-infused. New interactive devices are fuelling service innovation and expanding the range of available service interfaces. To maintain a coherent customer experience throughout a customer journey, service designers must engage this technological element with suitable tools and techniques. Following a multidisciplinary service design effort we present an extended service blueprinting that evolved from the practical collaboration between service designers, interactions designers, and software engineers. It expands and adapts previous works to better support the needs of these experts.

## SERVICES TECHNOLOGY INFUSION

New interactive devices, such as tablets and smartphones, present great potential for service innovation, but they bring new challenges for service designers by adding complexity with more interfaces and touchpoints. While service literature tends to focus on the human side of service provision, technology-infusion is being addressed by several authors (Wunderlich, Wangenheim, and Bitner 2012; Bitner, Brown, and Meuter 2000; Zeithaml 2002; Voss 2003). From a design perspective, creating and improving services must include the role of technology.

Given the holistic nature of experience (Meyer and Schwager 2007), an ill-designed interaction with a service system can degrade the entire customer experience. To prevent this, the design disciplines of service design and interaction design need to be bridged. Service design orchestrates service elements such as the physical environment, people (customers and employees), and service delivery processes to help customers co-create their desired experiences (Teixeira et al. 2012). Interaction design makes interactive devices usable and even agreeable to us (Preece, Rogers, and Sharp 2002). Previous research has already established a connection between these fields, identifying that technology usage presents challenges for service design, but also that the service perspective is a challenge for interaction design (Holmlid 2007). In fact, as service designers struggle to manage all touchpoints to enable the desired customer experience, so do interaction designers aim to manage the interactions across devices and platforms for consistency.

## EXTENDED SERVICE BLUEPRINTING

To strengthen the relation between service and interaction designers and to equip them with practical techniques to communicate and coordinate efforts, we introduce an extended service blueprint. This service blueprint was developed by a multidisciplinary team of service designers, interaction designers, and software engineers as part of a new service design project for improving football watching experience. Service blueprinting (Shostack 1984; Bitner, Ostrom, and Morgan 2008) is perhaps the best known and most commonly used service design technique. Its structure of interaction and visibility lines provides a clear-cut design allocation for multidisciplinary teams. In heavily technology-infused services, interaction designers work between the interaction and visibility line, software engineers work below the visibility line, while service designers orchestrate each contribution and the service delivery process. Due to the complex and technology-infused nature of our designed service, we used the Service Experience Blueprint (Patrício, Fisk, and Cunha 2008) that is already adapted to multi-interface services. We numbered and named each blueprint according to use-cases (Constantine and Lockwood 2001) defined collaboratively with the software engineering team. We modified the physical evidence layer to portray the system interaction and interfaces flow, added additional interaction lines to account for interactions with multiple context-aware devices, and introduced pre-conditions to reflect both system and interaction statuses.

This extended service blueprint enabled a tighter connection between the conceptual service design approach and the actual design of a system interface and interaction. It also set the groundwork for a better integration and communication with software engineers.

## REFERENCES

- Bitner, M.J., Brown, S.W. and Meuter, M.L. (2000), "Technology infusion in service encounters", *Journal of the Academy of marketing Science*, Springer, Vol. 28 No. 1, pp. 138–149.
- Bitner, M.J., Ostrom, A.L. and Morgan, F.N. (2008), "Service Blueprinting: a practical technique for service innovation", *California Management Review*, UNIVERSITY OF CALIFORNIA, Vol. 50 No. 3, pp. 66–95.
- Constantine, L.L. and Lockwood, L.A.D. (2001), "Structure and style in use cases for user interface design", *Object Modeling and User Interface Design*. Addison-Wesley, Boston, Citeseer, pp. 245–280.
- Holmlid, S. (2007), "Interaction design and service design: Expanding a comparison of design disciplines", Nordes. Stockholm.
- Meyer, C. and Schwager, A. (2007), "Understanding customer experience", *Harvard business review*, Vol. 85 No. 2, p. 116.
- Patrício, L., Fisk, R.P. and Cunha, J.F. (2008), "Designing Multi-Interface Service Experiences: The Service Experience Blueprint", *Journal of Service Research*, SAGE Publications, Vol. 10 No. 4, pp. 318–334.

Preece, J., Rogers, Y. and Sharp, H. (2002), "Interaction design: beyond human-computer interaction. 2002", NY: John Wiley & Son.

Shostack, G.L. (1984), "Designing services that deliver", Harvard business review, Vol. 62 No. 1, pp. 133–139.

Teixeira, J., Patrício, L., Nunes, N.J., Nóbrega, L., Fisk, R.P. and Constantine, L. (2012), "Customer experience modeling: from customer experience to service design", Journal of Service Management, Emerald Group Publishing Limited, Vol. 23 No. 3, pp. 362–376.

Voss, C.A. (2003), "Rethinking paradigms of service: Service in a virtual environment", International Journal of Operations & Production Management, MCB UP Ltd, Vol. 23 No. 1, pp. 88–104.

Wünderlich, N.V., Wangenheim, F. and Bitner, M.J. (2012), "High Tech and High Touch: A Framework for Understanding User Attitudes and Behaviors Related to Smart Interactive Services", Journal of Service Research, SAGE Publications, p. forthcoming.

Zeithaml, V.A. (2002), "Service excellence in electronic channels", Managing Service Quality, MCB UP Ltd, Vol. 12 No. 3, pp. 135–139.

# DESIGNING A BUSINESS MODEL ONTOLOGY FOR SERVICE SYSTEMS

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## ABSTRACT

Service Science researchers employ the service system abstraction to study value co-creation phenomena in economy and society. Models for describing and visually representing the components and properties of service systems facilitate scientific inquiry and application. Following the Design Science Research Methodology (DSRM) (Peppers et al., 2007), we develop an ontology (Gruber, 1993; Guarino, 1997) that guides the construction of service system models. We concisely present our design research using the six activities of the DSRM process.

## PROBLEM IDENTIFICATION AND MOTIVATION

Service Science research aims at discovering underlying principles of efficiency, effectiveness, and economic viability of value co-creation by investigating the purposeful and mutually beneficial interaction of service system entities. Service Science researchers have called for more research on vocabularies, conceptual abstractions, and visual models to describe and represent service systems. Modelling service system entities and their interactions helps communicating and reasoning about their intentionality (i.e., goals), teleological and ontological nature (i.e., function and composition), internal operations (i.e., resource allocation and orchestration of service processes), and externalized behaviour (i.e., choreography of service interactions). The understanding of problems and solutions obtained through models and the possibilities they bring for analysis, offer support for applications of service system design, engineering, and management.

## DEFINE THE OBJECTIVES FOR A SOLUTION

Interdisciplinary communication and collaboration is facilitated by a common conceptualization of research abstractions. Service Science has embraced the Service-Dominant Logic (SDL) of Vargo and Lusch (2004) as its philosophical foundation. Service system representations are faithful and useful if they commit to a service-dominant worldview and incorporate a focus on value co-creation phenomena.

Our goal is to develop an ontology for describing value co-creation phenomena within service systems from a service-dominant perspective. Apart from offering a shared vocabulary of well-defined concepts, an ontology also defines other elements (e.g., relations, attributes, axioms) for creating faithful and useful service system representations.

## DESIGN AND DEVELOPMENT

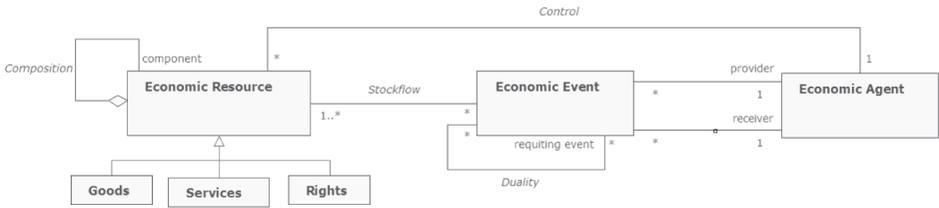
Rather than emphasising the artificial divide between goods and services,

SDL is positioned as a worldview that regards all economic activities as exchanges of service for service, in which goods may be used to transmit the benefits brought about by service. The modelling of the creation, delivery, and transfer of value in networks of economic actors has been the subject of research in the Information Systems (IS) field. These models are referred to as 'business models' as they clarify the business context of information system requirements, thereby ensuring requirements completeness and traceability and helping the detection of conflicting requirements, their resolution, and the systematic exploration of system design choices. Due to their systemic and analytic character, these graphical and semantically rich representations also help in analysing the business itself, for instance by addressing problems of alignment (e.g., strategic fit) and organisational design (e.g., business architecture).

IS researchers have developed business model ontologies that assist modellers in the creation of the envisaged representations; the ontology proposed by Osterwalder and Pigneur (2009) is a well-known example. Our design research draws from this knowledge base to develop a business model ontology for service systems. Our starting point is the Resource-Event-Agent (REA) ontology of McCarthy (1982). REA is a conceptual model of economic exchange that, unlike other business model ontologies, explicitly recognizes economic reciprocity as an ontological axiom (i.e., REA's duality axiom). Figure 1 presents a partial and strongly reduced view of the core elements of REA. The model basically states that economic agents are entities in control of economic resources, which are exchanged through economic events (e.g., sales, purchases, payments). The duality axiom dictates that economic events are requited, i.e., economic resources are exchanged for other economic resources between provider and receiver agents.

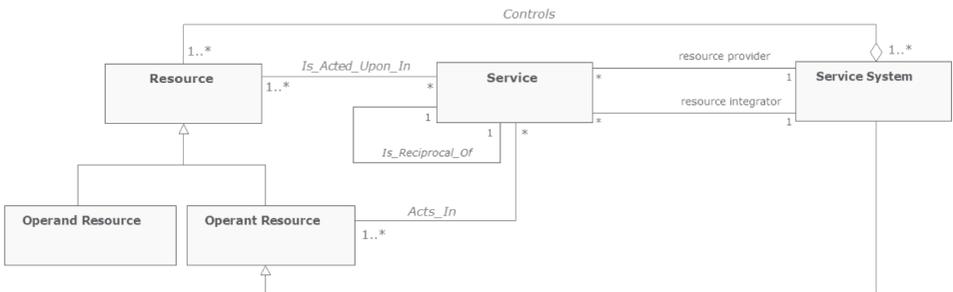
The specialisation of economic resources in goods, services, and rights indicates that REA does not commit to SDL. We therefore redesigned the REA ontology into a conceptual model of service exchange by investigating and reinterpreting its elements through the lens of SDL. Figure 2 shows part of our results in the form of a graphical model of the core elements of our ontology, which we call the Resource-Service-System (RSS) ontology. RSS interprets REA economic events and agents as services and service system entities. These entities are configurations of SDL operand and operant resources controlled by them. Resources are provided by an entity to be integrated into the resources of another entity, which derives value from this integration. The duality axiom prescribes that this value creation is mutual. The provision and integration of resources is the service, which is an economic event (in REA terms) in which at least one operant resource of the resource provider acts upon one or more resources, of which the resource integrator controls at least one, implying that value is co-created.

Figure 1: UML class diagram of core REA elements



Other RSS developments include the modelling of the exchange of service for service as a process of interactions between service system entities (based on the Interact-Serve-Propose-Agree-Realise model (Maglio et al., 2009)). These results are not further discussed here (confer references in the Communications section for more information).

Figure 2: UML class diagram of core RSS elements



## DEMONSTRATION

Demonstration of the developed ontology is an on-going research activity. We have for instance applied RSS to model an automobile repair shop as a service system. Compared to the use of existing business model ontologies, using RSS as a blueprint for service system modelling reveals insights into the co-creation nature of service and its consequences for service processes, e.g., a service process may also break down because of failures by car owners.

## EVALUATION

Like demonstration, evaluation and possible refinement of RSS is on going. Currently, evaluation of the solution objectives (i.e., servicedominant perspective and focus on value co-creation) is performed with descriptive methods using scenarios and informed arguments based on a comparison with alternative, existing service system representations. In the future, we will move from desk to field research and employ experimental and/or observational methods for evaluating the quality, usability, and usefulness of the ontology.

## COMMUNICATION

Our cross-disciplinary design research has been presented at several workshops and conferences; more extensive results of the design and development activity are reported in two proceedings papers (Poels, 2010a, 2010b).

## REFERENCES

Guarino, N. (1997) 'Understanding, building, and using ontologies', *International Journal of Human and Computer Studies*, 46: 293-310.

Gruber, T.R. (1993) 'A translation approach to portable ontology specifications', *Knowledge Acquisition*, 5(2): 199-220.

Maglio, P.P., Vargo, S.L., Caswell, N. and Spohrer, J. (2009) 'The service system is the basic abstraction of service science', *Information Systems and E-Business Management*, 7: 395-406.

McCarthy, W.E. (1982) 'The REA Accounting Model: A Generalized Framework for Accounting Systems in a Shared Data Environment', *The Accounting Review*, 57(3): 554-578.

Osterwalder, A. and Pigneur, Y. (2009) *Business Model Generation*.

Peppers, K., Tuunanen, T., Rothenberger, M.A. and Chatterjee, S. (2007) 'A Design Science Research Methodology for Information Systems Research', *Journal of Management Information Systems*, 24(3): 45-77.

Poels, G. (2010a) 'A Conceptual Model of Service Exchange in Service-Dominant Logic', *Lecture Notes in Business Information Processing*, 53: 224-238.

Poels, G. (2010b) 'The Resource-Service-System Model for Service Science', *Lecture Notes in Computer Science*, 6413: 117-126.

Vargo, S.L. and Lusch, R.F. (2004) 'Evolving to a New Dominant Logic for Marketing', *Journal of Marketing*, 68(January 2004): 1-17.

# DEVELOPING INNOVATIVE SERVICES BASED ON BIG DATA THE CASE OF GO:SMART

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## ABSTRACT

The purpose of this paper is to illuminate the challenges associated with developing innovative technology-based services based on big data. The paper presents and analyzes a case study of GO:SMART, a project with the aim to develop an innovative service for promoting sustainable transportation in urban areas. The challenges identified relate to epistemological and methodological directives that affect the process and outcome of big data-based new service development projects.

## INTRODUCTION

Big data analytics, a closely related field to that of business intelligence, has gained increased attention by both academics and practitioners lately. It has been identified as one of the most important technology trends and as a result firms and organizations have initiated experiment projects to explore its merits (e.g. IBM, 2012; McKinsey Global Institute, 2011; Moore, 2011; The Economist, 2012). This is not surprising given the upsurge of internal and external sources of information and their outcome in terms of massive amounts of information produced and collected by service organizations on an everyday basis (e.g. Kallinikos, 2006; 2013; Hand 2007; The Economist, 2010; Chauduri et al., 2011). Despite the fact then that service organizations of today are operating in information rich environments they are often characterized to be fundamentally short on knowledge (Caesarius and Lindvall, 2011). The application therefore of big data analytics is said to offer a solution by enabling the transformation of information into actionable knowledge and providing thereby service organizations the possibility to make decisions based on evidence and knowledge rather than on intuition (e.g. Davenport and Harris, 2007; Bollier, 2010; McAfee and Brynjolfsson, 2012). By drawing on the large flows of data from multiple sources, big data analytics is understood as a powerful vehicle that can help assemble the big picture and explicate previously undiscovered relations and underlying trends that can ultimately assist service organization by strengthening their competitive advantage (Bollier, 2010; Brown et al., 2011; Kallinikos, 2013). Admittedly simplified, such knowledge can be used by service organizations to increase the efficiency and effectiveness of both internal and external processes. Increasing the efficiency of internal processes can for instance entail making the service production processes smarter by devising actions when and where they are needed. Increasing the effectiveness of external processes can for instance entail the creation of completely new services that draw on a compilation of information to satisfy new customer needs as a result of evolving customer preferences.

While the advantages of big data analytics are highly interesting and

titillating, the narrative of big data often tends to overlook the underlying complexity upon which these advantages are based on. Among other things, the outcome of such endeavors are often conditioned by at least the satisfaction of two key requirements: (1) understanding the end-product, i.e. understanding what knowledge is and how it is formed (2) understanding how to organize and act in order to be able to take advantage of the knowledge developed.

The purpose of this paper is to illuminate the challenges associated with developing innovative technology-based services that draw on big data. To the best of the authors' knowledge, earlier studies of new service development have not dealt with big data analytics as the foundation for new technology-based services. Since the trend of exploration and implementation of big data analytics is expected to grow, particularly among service organizations, there is a need to investigate and understand the merits of big data analytics and explicate the challenges in new service development.

We begin with a review of the constitution of big data, the potential advantages and challenges. Following the review we present the autoethnographic method employed and declare the process of data collection and analysis. In the third part we present the longitudinal case study of the GO:SMART project and its outcome of the innovative service UbiGo to promote sustainable transportation of people in urban environments. The paper closes with an analysis of the case and some concluding notes.

## BIG DATA – CONSTITUTION, POTENTIAL AND CHALLENGES

Big data as a phenomenon refers to the proliferation of information in modern organizations often characterized in terms of dramatically increased volume, velocity and variety of information. Seen from a macro perspective, it is possible to argue that big data is related to the process of digitization that has been taking place for decades following the infusion of information technology in organizations the last couple of decades (Zuboff, 1988). As such the phenomenon in question relies on the existence of a digital realm – an eco-system of interconnected digital units that produce, collect, manipulate and consume digital objects (Kallinikos et al., 2010).

Seen from a micro perspective it is possible to discern four, and to a large extent interrelated, key driving factors that have coincided leading to the development of the big data phenomenon. A first factor is the Internet and which has created radically different conditions for among other things the management of information (Kallinikos, 2011; 2013; Rule and Besen, 2008). A second factor is the establishment of new social media channels following the introduction of web 2.0 (O'Reilly, 2005). These channels are based on a user-centric logic which together with their wide availability, due to converging technologies such as smart phones, have become highly popular (Bruns, 2008; Jenkins, 2006; Shirky, 2008). A third factor relates to the expansion of proprietary data and information in organizations. Spurring this development is the increased level of detail (granularity) and frequency by which data is produced, collected, manipulated and used in all types of

operational areas and interactions with both internal and external actors. Finally, a fourth factor is internet-of-things, meaning detect-and-respond technology built in to connected devices enabling them to communicate and initiate actions themselves.

As mentioned previously, the potential of big data analytics is in assisting the assembling of the big picture and in explicating previously undiscovered relations and trends. If harnessed, big data can therefore yield major advantages to service firms by effectively turning them into more intelligent enterprises. This means for example that attention can be directed on issues that evidently have been proven important rather than just believed to be important. Moreover, it means that firms can optimize operations drawing on a superior measurement precision (Brynjolfsson et al., 2011). Finally big data analytics can provide the advantage of spurring the development of especially new services as a result of knowledge harnessed from information stemming from multiple sources.

The application areas of big data analytics have proven many in number (Chen et al., 2012; Kallinikos, 2013). They include but are not limited to biomedicine and healthcare (e.g. Reiser, 2009; Lang, 2011; Miller, 2012), environmental and climate issues (Overpeck et al, 2011), law enforcement, security and safety (Manning, 2008; Abbasi et al., 2012), financial risk management (The Economist, 2012) and a variety of areas related to market intelligence such as the prediction of changing customer demand and preferences (Carpenter, 2011; Brynjolfsson et al., 2012; Chau and Xu, 2012; Park et al., 2012).

Besides possible advantage big data is also related to a number of challenges that are often overlooked in the traditional narrative of the phenomenon. First the understanding of the end-product, i.e. understanding what knowledge is and how it is formed, and second, understanding how to organize and act in order to be able to take advantage of the knowledge developed. These challenges can be summarized in two fundamental categories that pertain to the epistemological and methodological directives respectively employed in establishing and executing the analytical process. By epistemological directives is meant the consideration of cognitive variations, the management of multiple perspectives and truths as well as the given interpretation priority that together form the outcome of the process in terms of knowledge. The epistemological directives are fundamentally related to questions such as the definition of the core underlying problem and the definition of the type of knowledge sought after. By methodological directives on the other hand it is here meant the fashion by which analytical processes are set up and conducted, the skills and expertise in the group carrying out the analytical process as well as what information sources are used and how the final outcome is packaged, delivered and used.

## METHOD

This paper presents part of longitudinal case study of an ongoing effort by a group of actors to develop and test an innovative digital service. According to Kimberly (1976:329), longitudinal research consists of “those

techniques, methodologies and activities which permit the observation, description and/or classification of organizational phenomena in such a way that processes can be identified and empirically document". The data collection process relied heavily on an autoethnographic method drawing on the personal experience of one of the authors as a project member. Ellis (2004:xix) defines autoethnography as "research, writing and method that connect the autobiographical and personal to the cultural and social. This form usually features concrete action, emotion, embodiment, self-consciousness, and introspection". Autoethnography is an ethnographic method and approach of qualitative research that focuses on describing and systematically analyzing the personal experience of a participant actor in order to understand the experiences of the group studied. It entails going 'native' in the sense that the participant actor operates as an insider and is granted full membership within the group studied.

As a project member the author took part in all project meetings and documentation which included: first, more than 15 project meetings aiming to define and describe the service (service description), define its functions (functional description) and illustrate the service as an app (mockup). Second, documentation and first hand reports from more than 10 project meetings with various prospective transportation service phenomenon. First the understanding of the end-product, i.e. understanding what knowledge is and how it is formed, and second, understanding how to organize and act in order to be able to take advantage of the knowledge developed. These challenges can be summarized in two fundamental categories that pertain to the epistemological and methodological directives respectively employed in establishing and executing the analytical process. By epistemological directives is meant the consideration of cognitive variations, the management of multiple perspectives and truths as well as the given interpretation priority that together form the outcome of the process in terms of knowledge. The epistemological directives are fundamentally related to questions such as the definition of the core underlying problem and the definition of the type of knowledge sought after. By methodological directives on the other hand it is here meant the fashion by which analytical processes are set up and conducted, the skills and expertise in the group carrying out the analytical process as well as what information sources are used and how the final outcome is packaged, delivered and used.

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While autoethnography permits the participant actor to acquire an intimate familiarity with the group it does not necessarily mean that the insider's position also enables capturing an unchallengeable truth of the group effort. As Hayano (1979:102) points out "interpretations of events among individuals in the same group are often highly variable, changing, or contradictory". To balance the personal experience of the author participating as a project member the case study also relies on extensive documentation such as internal reports, technical specifications, meeting minutes, applications and memos. In addition the case study also relies on the outcome of a focus group session held once the idea behind the service became clear. The focus group session involved three different target groups: singles and cohabiting, families with children and people over 55 years of age. A total of 15 people participated in interactive dialogues based on the scenario description and a shorter survey was conducted asking the participants to identify and rate important factors of the service.

## THE CASE OF PROJECT GO:SMART

Initiated in 2012, the GO:SMART project is a two year multi-party innovation and research project with the goal to develop, test and implement an innovative digital service that facilitates and promotes sustainable transportation in the City of Gothenburg, Sweden. The aim is to reduce the gap between private and public transport by an independent commercial operator that tailors everyday travel and where customers are rewarded for sustainable transport choices. The idea behind the project stems from the vision of city households preferring transportation mobility and flexibility before owning a car, choosing thereby to become customers of a reliable, flexible and full-service sustainable transportation solution. The solution, known as UbiGo, offers its users different service packages by combining a variety of transportation means and modes. Customers will have access to for instance public transportation, taxis, electric cars rental pool, electric bike rental pool and other electric vehicles. The GO:SMART project is

expected to result in improved conditions for sustainable transportation of people as well as in new green business opportunities. Moreover, the project is expected to demonstrate how collaboration between different actors and new business opportunities can reduce the need for privately owned cars and promote "mobility as a service".

The GO:SMART project group includes 60 people representing 16 different actors with a variety of knowledge and expertise and with different responsibilities. Four of these actors have a leading role, each with their own perspective that negotiates and shapes the process and outcome of the project. First, the service developers whose primary responsibility is to identify, define and describe the service offering and whose priority therefore is to consider the travellers' (users) wants and needs and hence the customer value of the outcome. Second, the business developers whose primary responsibility is to develop a business model for the independent commercial operator that will handle the service. Their priority therefore is to create a sustainable and hence commercially viable business out of the project. Third, the system developers whose primary responsibility is to design and build the back-end and front-end of an IT-system and to develop its user interfaces (web and mobile application). Their priority therefore is to create a functioning system that can connect to external information sources, collect, analyze and present information in an easy, fast and correct manner. Finally, the travelers, i.e. the intended customers and users of the service represented by a focus group whose priority is to make sure that the end-product, UbiGo, becomes flexible enough to be a serious transportation alternative in their everyday lives.

Instigating what today is the GO:SMART project was the growing concern in the city council and its transportation authority for more sustainable transportation in the City of Gothenburg. Reports had indicated that the use of cars was far more prevalent in Gothenburg than in the country's other two major urban centres, Stockholm and Malmö. Discussions commenced on how to create a solution that could compete with the ease and flexibility that a car offers and a small project was formed that delivered a report in 2011 containing ideas called "The flexible road user – business opportunities in K2020". The discussions expanded to include parties from previous collaborations and the key question morphed into how to create a service for the inhabitants that offers the most suitable transportation mode without the need to own the means of transportation. Coincidentally a research and innovation call for "Challenge-driven Innovation" was announced soon after by VINNOVA, Sweden's Innovation Agency. The call was divided into three parts: a first part (A-project) to investigate whether the idea complies with the criteria of the Agency by potentially affecting at least one of the identified societal challenges mentioned. The parties formed a project group which applied for and was granted 0,5 MSEK to further specify the idea, to identify the main partners necessary to design and develop the idea into a full-scale service and then to write and apply for the second part of the call (B-project). Less than a year later the B-project application was granted and the project now named GO:SMART received 10 MSEK from the Agency and 10 MSEK as counter funding from the parties leading to a total of 20 MSEK in budget.

Work in the GO:SMART project was initiated during early fall of 2012 focusing primarily on (1) developing the business model of the commercial operator of the UbiGo, (2) developing, formulating, specifying and planning the service of UbiGo and (3) thereafter gaining input from potential users through focus groups and interviews. During spring 2013 work commenced (1) by the system developers on the APIs, web and other IT-solutions while other parties of the project group focused on (2) contracts with suppliers of transportation, (3) on marketing and sales and (4) on developing the set-up of Living Lab, the planned large scale testing sequence for the fall of 2013 with hundred households in Gothenburg. Following Living Lab, the project will be evaluated and the service adjusted before it is offered to the public during 2014.

The service of UbiGo is based on a flexible subscription with the possibility of additional trip purchases. The service is paid in advance for the following month in addition to previous month's additional trip purchases. UbiGo offers a joint account for household, where several members of the household can be logged in at the same time and call off trips from the same account. Each customer will have a "My Account" website where it is possible to see how many tickets each member of the household has consumed. The "currency" in UbiGo is days, hours, and in some cases fixed trips. It is based on the finding that the use is about having access to and unlocking more or less precious resources, rather than how far you take it. You may save unused services for up to 3 months or until your agreement ends. This means that unused travel will vanish in case the user terminates his or her agreement. Users will be able to interact with UbiGo through a mobile application accompanied by a 24 hours customer support. To encourage sustainable traveling users will be rewarded an "eco-score" for eco-friendly travel behavior.

GO:SMART is expected to result in more sustainable travel in terms of reduced trips by fossil-fueled vehicles and emissions, increased trips by public transportation but also in new business opportunities. If successful, the GO:SMART project holds the vision to adapt the service of UbiGo to a number of cities around the world contributing to the overall goal of becoming greener, safer and a more attractive alternative to cars.

## ANALYSIS

In the process of developing the project, the project group has constantly negotiated and interpreted the definition of the underlying core problem from their various perspectives. Moreover they have also negotiated and interpreted through their different perspectives the definition of the knowledge sought after represented by the information the system brings to the user and packaged and delivered in the form of a digital service through a mobile application, UbiGo. These epistemological and methodological directives have morphed both the process and the current outcome of GO:SMART. The four different perspectives have yielded different outcomes that have influenced the current outcome of the project.

The service developers worked intensively to translate the original idea into something that would add value to customers by solving their daily

transportation needs. In the initial phase, they draw on the customer perspective that was represented by previous studies and interviews leading to a somewhat intrinsic perspective by the service developers of what would be interesting for the traveler. In this phase no consideration was taken to limited resources or technical limitations.

As soon as the service description started to take form it was tested against real travelers in a focus group with complementary interviews conducted. When the outcome was analyzed it became clear to the project group that the users' perspective indicated the service could potentially be useful for travelers. However, it also became clear that some of the solutions were not considered flexible enough to cover the complete transportation needs. Consequently the project group had to re-design the solution to make it more flexible which also affected the original business model that now needed an update.

The business developers created a business model that was built very much upon a subscription solution but the project decided collectively to alter the subscription solution as well as the business model to better correspond with travelers' needs and suggestions. The initial thought was that it now would be more difficult to find a business model able to provide value for the traveler and at the same time provide enough revenue for the commercial operator of the service. However, soon after the alteration of the business model new opportunities became visible making the new business model even stronger than the first one.

Once the service had been tested and adjusted according to feedback from travelers, functional specifications were developed for the system developers to proceed with their part. Describing the technical design of the service made it possible to estimate resources and technical limitations. To the disappointment of the service development team it became clear that not all functions of the service were possible to develop due to technical and budget restrictions. For instance, to harness the information from various information sources was sometimes deemed too difficult and expensive. The project group member had again to negotiate a different outcome of the project now considering also the system developers' perspective.

## CONCLUDING NOTES

The service is made possible by navigating and orchestrating different, and sometimes, conflicting perspectives. In addition, the service is made possible by big data analytics in the sense that information collected from a plethora of sources is continuously and automatically collected, analyzed and presented to customers in the form of sustainable transportation options. For the individual customer such knowledge (in the form of options) would have been highly difficult and time-consuming to attain on a regular basis making sustainable transformation in urban environments less likely to occur.

## REFERENCES

- Abbasi, A., Albrecht, C., Vance, A and J. Hansen, (2012), "MetaFraud: A Meta-Learning Framework for Detecting Financial Fraud", *MIS Quarterly*, 36 (4) 1293-1327.
- Bollier, D. (2010), *The Promise and Peril of Big Data*, Washington, DC: Aspen Institute.
- Brown, B., Chui, M. and Manyika, J. (2011) Are You Ready For the Era of "Big Data"?, *McKinsey Quarterly*, October (4).
- Brynjolfsson, E., Hammerbacher, J. and B. Stevens, (2011), "Competing Through Data: Three Experts Offer Their Game Plans", *The McKinsey Quarterly*, 4, 36-47.
- Caesarius, L. M. and Lindvall, J. (2011), *The Quest to Make Sense of Information*, Paper presented at the Nordic Academy of Management Conference, August 22-24, Stockholm, Sweden.
- Carpenter, J., (2011), "May the Best Analyst Win", *Science*, 331, 698-699.
- Chau, M. and J. Xu, (2012), "Business Intelligence in Blogs: Understanding Consumer Interactions and Communities", *MIS Quarterly*, 36 (4) 1189-1216.
- Chaudhuri, S., Dayal, U and Narasayya, V. (2011) "An Overview of Business Intelligence Technology", *Communications of the ACM*, 54 (8), 88-98.
- Chen, H., Chiang, R. and Storey, V. C. (2012) *Business Intelligence and Analytics: From Big Data to Big Impact*, *MIS Quarterly*, 36 (4), 1-24.
- Davenport, T. H. and Harris, J. G. (2007) *Competing on Analytics: The New Science of Winning*, Boston, Harvard Business School Press.
- Ellis, C. (2004) *The Ethnographic I: A Methodological Novel about Autoethnography*, Walnut Creek, CA: Alta Mira Press.
- Hand, D. J. (2007) *Information Generation: How Data Rule Our World*, Oxford, UK: Oneworld.
- Hayano, D. M. (1979) "Auto-Ethnography: Paradigms, Problems and Prospects", *Human Organization*, 38 (1), 99-104.
- IBM (2012), *The 2012 IBM Tech Trends Report: Fast Track to the Future*, December 5.
- Kallinikos, J. (2006), *The Consequences of Information; Institutional Implications of Technological Change*, Cheltenham, Edward Elgar.
- Kallinikos, J. (2011), *Governing Through Technology: Information Artefacts and Social Practice*, London, UK: Palgrave McMillan.

Kallinikos, J. (2013), The Allure of Big Data, Mercury Magazine, 3 (spring) 40-43.

Kallinikos, J., Aaltonen, A and Marton, A (2010), A Theory of Digital Objects, First Monday, 15(6), June.

Kimberly, J. R. (1976), "Issues in the Design of Longitudinal Organizational Research", Sociological Methods & Research, 4, 321-347.

Lang, T. (2011), "Advancing Global Health Research Through Digital Technology and Sharing Data", Science, 331, 714-717.

Manning, P. K. (2008), The Technology of Policing, Crime Mapping, IT, and the Rationality of Crime Control, New York, NY University Press.

McAfee, A. and Brynjolfsson, E. (2012) "Big Data: The Management Revolution", Harvard Business Review, October, 60-68.

McKinsey Global Institute (2011), Big Data: The Next Frontier for Innovation, Competition and Productivity.

Miller, K., 2012 "Big Data Analytics in Biomedical Research", Biomedical Computation Review, accessed February 9, 2013.

Moore, S., (2011), "Gartner Forecasts Global Business Intelligence Market to Grow 9.7 Percent in 2011", Gartner Research.

Overpeck, J. T., Meehl, G, Bony, S. and Easterling D. R. (2011), "Climate Data Challenges in the 21st Century", Science, 331, 700-702.

Park, S-H, Huh, S-Y, Oh, W. and S. P. Han, (2012), "A Social Network-Based Inference Model for Validating Customer Profile Data", MIS Quarterly, 36 (4) 1217-1237.

Reiser, S. J., (2009), Technological Medicine: The Changing World of Doctors and Patients, Cambridge, UK: Cambridge University Press.

Rule, J. B. and Besen, Y., (2008), "The Once and Future of Information Society", Theory & Society, 37 (5) 317-342.

The Economist, (2010), "Data, Data, Everywhere", Special Report on Managing Information, (February 27).

The Economist, (2012), "Big Data: Crunching the Numbers", Special report on international banking, (May 19). DESIGNING A BUSINESS MODEL ONTOLOGY FOR

# DIFFERENCES IN PERSONALITY OF CHIEF EXECUTIVE OFFICERS IN SERVICE AND MANUFACTURING FIRMS

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## ABSTRACT

Recently, attention paid to company leadership has risen considerably due to the notion that managers play significant roles in the success of a corporation. Chief Executive Officers (CEOs), not only as the spearhead of the company but as role models, are the critical individuals who are held responsible for corporate success. It is their obligation to communicate and enforce business objectives, manage the corporate culture, connect to shareholders, and uphold a positive reputation. Research into the individual personality traits of CEOs as a means of predicting job performance has been the focus of many previous studies, while very little attention has been paid specifically to the characteristics of service firm CEOs and their respective personality traits.

To date, literature on human resource management within service firms and on leadership of service firms has not yet identified promising personality traits for successful leadership. In our study, we propose that a specific set of common personality traits held by successful CEOs does exist. We analyzed the personalities of the top 30 CEOs of DAX-listed companies in German as examples of highly successful managers, testing additionally whether CEOs of service firms differ from those of manufacturing firms. The personalities were analyzed through judgments at zero acquaintances. In order to find a common pattern of personality traits among the top executives, we included judgments by test subjects who were to evaluate profiles of each manager. Data for establishing the profiles was collected through online sources, such as interviews, newspaper articles, peer reviews, personal quotes and personal curricula vitae. Our test-subjects who were required to evaluate the corresponding managers were additionally required to fill out a self-evaluation in order to control for HALO effects. After completing the self-evaluation, participants were asked to assess two randomly selected profiles which were presented in an anonymous form. We had the test subjects analyze the CEO's personality on the basis of the 30-items survey of the Big Five model of personality traits (NEO-FFI). Thus, the test subjects rated their personality in a self-evaluation as well as the manager personalities in terms of the Big Five dimension neuroticism, extraversion, openness, agreeableness and conscientiousness. Our sample included 140 subjects, resulting in 240 evaluations of top managers.

The representative market sample of the service sector included twelve companies from various industries among the 30 top executives. Within the NEO-FFI dimensions and its scale between zero and four, the service firms' CEOs scored low in Neuroticism (1,02), slightly higher in Extraversion (2,21) and Openness (2,27), on average in Agreeableness (2,01) and high in Conscientiousness (3,12). The data concludes that top executives

of service firms are slightly more extraverted, score slightly higher in openness and conscientiousness and appear more agreeable than those of manufacturing firms. When reflecting these results within the service industry, the importance of an open mind and insightful way of dealing with customers is revealed. The findings also exhibit clear distinctions between CEO personalities and the average population personality.

Future research shall analyze the effects of CEO personalities on overall company success as well as employee and investor satisfaction. By analyzing the differences in CEO personalities between certain sectors, i.e. services and manufacturing, research will specifically address in greater detail how the personalities of successful managers differ from those less successful and yield practical implications for the selection of managers. The results will provide a set of personality traits that can be employed during the manager selection process.

# DOES BIG DATA PROVIDE BIG OPPORTUNITIES FOR SERVICE RESEARCH?

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## ABSTRACT

Big data analytics is an emerging field with great potential for cross-fertilization between information systems and service research. However, there is little rigorous inquiry into big data from a service science or management perspective. In this conceptual work, we apply a thematic analysis to a sample of practitioner-oriented big data literature to (1) identify challenges practitioners face when attempting to benefit from big data, and (2) contribute to service science by developing research priorities directly associated with these managerial challenges.

## INTRODUCTION

Information and communication technology is critical to many services, and understanding its wider implications represents a key research priority for service science (Ostrom, et al., 2010). Similarly, service is a key context for use of information systems, and there is a clear need for more work linking information systems research and service research (Raj and Sambamurthy, 2006). Here, we take a service science perspective on “big data analytics”, a prominent emerging area of information systems and of business more generally. Big data analytics aims to generate managerially relevant insights given extreme volumes of data, often collected from a variety of sources, and arriving at high velocity and with unknown veracity.

Big data is driven by technological advances in computation, storage, and networking that resulted in a new ability to create, store, and process data in hitherto unseen quantities, often even in real-time (McAfee and Brynjolfsson 2012). Big data promises significant opportunities for improving and understanding processes and relationships at all levels of society (Mervis 2012). Consequently, corporations, such as IBM (Schroeck et al., 2012), and non-government entities, such as the World Economic Forum (Darrow, 2012), are discussing potential implications and challenges related to this socio-technological revolution (Davenport and Satil, 2012).

Some scientific fields, such as astronomy or physics, already produce exabytes of data to be analyzed and understood everyday (Kaiserswerth 2013). However, management scholars have not yet caught-up with the big data revolution. Though areas such as business analytics and data mining address certain technical questions (Chen, Chiang and Storey, 2012), the biggest challenges related to big data are managerial (LaValle et al., 2011; McAfee and Brynjolfsson, 2012). There remains little rigorous conceptual or empirical research addressing managerial challenges and opportunities related to big data.

## METHOD

We used a thematic analysis (Bowen 2009; Guest 2012) of big data-related practitioner literature to identify relevant managerial challenges, and then to derive associated opportunities for service research. Specifically, we analyzed the content of 16 industry reports, 18 papers published in practitioner-oriented journals, and 12 newspaper articles published between January 2010 and March 2013. First, we used nVivo 7 to compile the publications in a data repository (Yin, 2011). Second, we followed a descriptive coding approach to identify and summarize managerial challenges until the point of theoretical saturation. Finally, we used interpretive coding to summarize the descriptive codes, and pattern coding to categorize the managerial challenges identified in the data (Yin 2011).

## FINDINGS

We identified four primary managerial challenges related to big data: (1) technical, (2) cultural, (3) practical, and (4) financial. Technical challenges include those associated with the accessibility, quantity, quality, and privacy of data. Cultural challenges include lack of knowledge about, and experience with big data, lack of executive support for big-data projects, and overall lack of a data-driven mindset. Practical challenges include limited availability of skilled labor, and limited ability to present analytical findings in a useful way. Financial challenges result from the high cost and high risk of building an effective technical infrastructure for big data projects.

## DISCUSSION

The use of big data in businesses is in its infancy. Our preliminary study has identified several key managerial challenges associated with big data analytics, namely technical, cultural, practical, and financial. These general challenges present specific research opportunities in the context of big data and service science. For example, future research might provide empirical insights into how big data analytics can help to advance innovation in service, or how big data analytics can help us better understand value co-creation. Qualitative case studies could highlight best practices across industries, thereby providing practitioners with insights needed to overcome cultural and practical challenges. Technical challenges, specifically data privacy, provide opportunities to investigate the role of service customers in big data. We know that successful value co-creation is contingent on the effective exchange of resources; in the case of big-data-enabled services, resources are often personalized user information, and questions may arise concerning how to manage the collection of such information without negatively influencing perceived value. A better understanding of the role and potential contribution of big data in service will likely minimize perceived risks, thereby helping to overcome financial challenges.

Of course, our analysis of current practitioner literature represents only a first step toward identifying managerial challenges related to big data. This approach cannot substitute for field studies and interactions with

practitioners. Our future work will investigate the use of big data in service environments, and rely on a variety of methods (Ostrom et al. 2010).

## REFERENCES

Bowen, G. A., (2009), "Document Analysis as a Qualitative Research Method", *Qualitative Research Journal*, 9 (2), 27 – 40

Chen, H., Chiang, R. H. L. and Storey, V. C., (2012), "Business Intelligence and Analytics: From Big Data to Big Insights", *MIS Quarterly* 46 (4), 1-24.

Darrow, B., (2012), "Davos does Data", GigaOM. Available online at: <http://gigaom.com/cloud/davos-does-data>. [Accessed October 15th 2012].

Davenport, T. H., and Satil, D. J., (2012), "Data Scientist: The Sexiest Job of the 21st Century", *Harvard Business Review*, October 2012, 70-76.

Guest, G, (2012), *Applied Thematic Analysis*. Sage, Thousand Oaks, CA, USA. Yin R. K., (2011), *Applications of Case Study Research*, Sage Publications, London, UK.

Kaiserswerth, M., (2013), "Help wanted: Bright scientists who want to tap big data and change the world." IBM A Smarter Planet Blog <http://asmarterplanet.com/blog/2013/03/help-wanted-bright-computer-scientists-who-want-to-change-the-world.html> [Accessed March 20th 2013]

LaValle, S., Lesser, E., Shockley, R., Hopkins, M. S. and Kruschwitz, N., (2011), "Big Data, Analytics and the Path from Insights to Value", *MIT Sloan Management Review*, Winter, 21-31.

McAfee, A. and Brynjolfsson, E., (2012), "Big Data: The Management Revolution", *Harvard Business Review*, October, 61-68.

Mervis, J., (2012), "Agencies Rally to Tackle Big Data", *Science*, 336 (6077), 22.

Ostrom, A. L., Bitner, M. J., Brown, S. W., Burkhard, K. A., Goul, M.,

Smith-Daniels, V., . . . Rabinovich, E., (2010), "Moving Forward and Making a Difference: Research Priorities for the Science of Service", *Journal of Service Research*, 13 (1), 4-36.

Raj, A. and Sambamurthy, V., (2006), "The Growth of Interest in Services Management: Opportunities for Information Systems Scholars", *Information Systems Research*, 14 (4), 327-331.

Schroeck, M., Shockley, R., Smart, J., Romero-Morales, D. and Tufano, P., (2012), *Analytics: The Real-World Use of Big Data*, IBM Institute for Business Value, Somers, NY, USA.

# **DYSFUNCTIONAL EMPLOYEE BEHAVIOR - EXPLORING SIDE EFFECTS OF PERFORMANCE MEASUREMENT SYSTEM**

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## **INTRODUCTION**

Management researchers have explored the nature and design of performance measurement systems from many different perspectives (PMS) (Franco-Santos et al 2007). Performance measurement is considered an important aspect of management because it provides the basis for an organization to assess how well it is progressing toward its internally planned and targeted goals (Yasin & Gomes 2010). However, it still remains a much debated issue with critical attention given to the question of what and how to measure performance (Kennerly & Neely 2002). Bitici et al (2012) argue that the traditional idea of PMS as rational control systems is changing towards understanding performance measurement as an integrated system which includes the individuals, the organization and the society in which it operates. In line with this Ostrom et al (2010) discuss the role of performance measurement from servicedominant thinking where performance management also ought to include

the perspective of customers and their value-in-use. Performance measurement literature clearly recognizes the dyadic relationship between PMS and organizational behavior without really exploring how it influences individual employee behavior. In many organizations, individual employees have crucial roles in creating customer value. Balmer & Greyser (2001) even argue that it is through the frontline employees' behavior that service firms create real competitive advantage.

The purpose of this study is therefore to explore the use of performance measurement systems as a social system in service organizations, and how they influence frontline employee behavior.

## **PERFORMANCE MEASUREMENT SYSTEMS AND FRONTLINE EMPLOYEES**

Performance measurements are built on the fundamental assertion that firms achieve success when they meet stakeholders' expectations (effectiveness) and maximize the utilization of their available resources (efficiency) (Neely 2005). PMS can be used as feedback to employees on the outcome of actions (Bitici et al 2012), as a tool for the planning and management of business (Bourne et al 2003), and as support for the decision making process (Yasin & Gomes 2010). The more negative recognized effects of PMS are decreased motivation and innovativeness (de Bruijn 2002) and the development of a control culture.

Frontline employees personalize both the firm and the service offering and customer satisfaction is often influenced by the quality of the interpersonal interaction (Bitner et al 1994). Many times that interaction is

the service from the customer's point of view. Hence, it is important to understand how PMS influence employee behavior in such interactions.

### Methodology

The study is based on exploratory case studies in two leading Swedish service organizations. The two cases represent industries with high customer contacts and a tradition of performance measurement. The longitudinal case studies encompass 55 in-depth interviews, with frontline employees and middle managers. The analysis comprised an iterative process of sorting and identifying categories. Following Miles & Huberman (1994) we looked for patterns and themes in the data related to previous literature. Categories were identified as relevant in relation to the problem statement.

## CASE STUDY FINDINGS AND CONCLUSIONS

The studied firms used performance measurement systems primarily for controlling sales and they measured items as independent from employee work practice. Also, the items were used for comparing results between different work units. Good intentions with measures of fast customer response time lead to a behavior where the employees chose to terminate conversations as soon as possible. Hence, it can be concluded that the majority of customer-facing measures, such as responsiveness and on-time delivery were focused on value-in-exchange rather than value-in-use. There was a gap in the translation between strategy and practice that lead to employee dysfunctional behavior in service encounters. The outcome of this dysfunctional behavior was unsolved customer problems, impeding a learning organization, internal competition and sub-optimization. It can be concluded that the system starts living its own life, creating norms, values and behavior that maximize measurement output rather than service orientation. In other words, employees become calculative adaptors to the system (Hrebiniak & Joyce, 1984). Performance measurement systems need to be adapted and fully incorporated in the service system as to avoid vicious learning circles (Normann 1991) and create value-in-use. Thus, the conclusions suggest that performance management should be viewed as a social phenomenon integrated within the organization.

## REFERENCES

- Balmer, J.M.T., and Greyser S.A., (2006), "Integrating corporate identity, corporate branding, corporate communications, corporate image and corporate reputation", *European Journal of Marketing* 40, no. 7/8: 730-741.
- Bitner, M.J., Booms, B.H., and Mohr, L.O. (1994), "Critical Service Encounters: The Employee's Viewpoint", *Journal of Marketing*, Vol 58, Oct, pp. 95-106
- Bitici, U., Garengo, P., Dörfler, V., and Nudurupati, S. (2012), "Performance Management: Challenges for tomorrow", *International Journal of Management Reviews*, Vol 14, Iss 3, pp 305-327

Bourne, M., Neely, A., Mills, J., and Platts, K., (2003), "Why some performance measurement initiatives fail: lessons from the change management literature", *International Journal of Business Performance Management*, Vol 5, No 2/3, pp 245-269

De Bruijn, H., (2002), "Performance measurement in the public sector: strategies to cope with the risks of performance measurement", *International Journal of Public Sector Management*, Vol 15, No 7, pp 578-672

Franco-Santos, M., Kennerly, M., Micheli, P., Martinez, V., Mason, S., Bernard Marr, D.G., and Neely, A., (2007), "Towards a definition of business performance measurement system", *International Journal of Operations & Production Management*, Vol 27, Iss 8, pp 784-801

Hrebiniak, L.G., and Joyce, W.F., (1984), "Implementing strategy", New York Macmillan

Kennerly, M., and Neely, A., (2002), "A framework of the factors affecting the evolution of performance measurement systems", *International Journal of Operations & Production Management*, Vol 22, Iss 11, pp. 1222-1245

Miles, M. B., and Huberman A.M., (1994), *Qualitative Data Analysis* (2nd edit.), Thousand Oaks, CA: Sage.

Neely, A., (2005), "The evolution of performance measurement research: Developments in the last decade and research agenda for the next", *International Journal of Operations and Production Management*, Vol 25, Iss 12, pp 1264-1277

Normann, R., (1991), *Service Management: strategy and leadership in service business*, Wiley

Ostrom, A.L., Bitner, M.J., Brown, S.W., Burkhard, K.A., Goul, M., Smith-Daniels, V., Demirkan, H., Rabinovich, E., (2010), "Moving forward and making a difference: Research priorities for the science of service", *Journal of Service Research*, Vol 13, No 4, pp 4-36

Yasin, M.M., and Gomes, C.F., (2010), "Performance management in service operational settings: a selective literature examination", *Benchmarking: An International Journal*, Vol 17, No 2, pp 214-231

# EXPLORING PREVALENCE, FORMS, AND RELATIONSHIPS OF SERVICE MODULARITY: A CROSS-SECTIONAL STUDY OF GERMAN PRIVATE HEALTH INSURANCE SERVICES

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## ABSTRACT

Modularity is a widely spread concept with well-known benefits and risks. Recent research proposes that modular architectures for service can achieve similar effects for services. Despite notable progress, there is little data on service modularity beyond individual case studies of companies. Our study enhances research on service modularity by investigating the prevalence of service modularity in a mature service market. We analyse the private health insurance services in Germany and provide insights into relationships of service modularity with factors such as customer choice (antecedents and effects of service modularity). Furthermore, we identify promising areas of future empirical research.

## INTRODUCTION

The principle of modularity is well established in product development, software engineering, processes and systems, e.g. Ulrich and Tung (1991), Baldwin and Clark (1997), and Schilling (2000). In recent years, it has been extended to services in different industries, such as financial services, logistics, IT, or health care services (Dörbecker and Böhmann 2013). Service modularity promises achieving reductions in time and cost of delivering services while providing greater flexibility to meet the needs of service customers and service users, e.g. de Blok et al. (2010), Böttcher and Klinger (2011), and Pekkarinen and Ulkuniemi (2008). Service modularity is thus a key concept for improving the effectiveness and efficiency of service systems, but research is still in an early stage. A substantial stream of research deals with service modularity at a conceptual level (Dörbecker and Böhmann 2013). Presently, there is relatively little empirical data about the actual prevalence of service modularity in industries. Most studies investigate service modularity at the level of a single organisation. Additionally, we have little data on the relationships of service modularity with other factors, such as potential antecedents or effects (Dörbecker and Böhmann 2013).

Our analysis of service modularity in German private health insurance services generates two outcomes: First, it provides data on the prevalence of service modularity and different forms of service architecture within a specific market; second, it explores potential factors associated with service modularity.

The market of German private health insurance services is appropriate for our purpose because it is a well-established service industry with a high degree of market transparency and strong regulations that lead to

comparable base services. It is a mass market for affluent customers with different needs, as private health insurance in Germany is open only to high-income employees, certain professions, and entrepreneurs. This market needs to address the specific needs of high-income individuals as well as the restrictions defined by the legal framework governing private health insurance. We seek to study the service providers' architectural response to these simultaneous drivers of heterogeneity and homogeneity. We are able to do so through accessing a unique data set covering the large majority of services and service providers in this market. By focusing on the modularity of service offerings, we investigate the point of view of the customer.

The paper is structured as follows. The review of extant literature enables us to summarize main findings on modularity in the context of products and services. We then present the methodological approach in terms of quantitative empirical data analysis. Next, we describe and discuss the main findings of our analysis. Finally, we derive conclusions for future research on service modularity.

## THE CONCEPT OF SERVICE MODULARITY

The following section reviews the literature on both product modularity and service modularity. We aim to demonstrate the general relevance of service modularity and to highlight prospective topics of research.

Modularity in products is firmly established and refers to an approach to organize complex products and processes efficiently (Baldwin and Clark 1997) by decomposing complex tasks into simpler activities so they can be managed independently (Mikkola and Gassmann 2003). Modularity permits components to be produced separately and used interchangeably in different product configurations without compromising system integrity (Baldwin and Clark 1997). The benefits and risks of product modularity are well known and widely discussed and empirically proven.

Generally, modularity in services is a similar principle with expected benefits. In recent years, a transfer of existing approaches from products to services can be observed (Dörbecker and Böhmman 2013). However, there does not yet exist a unified view of the concept within the context of services. Different authors emphasize different aspects. On the one hand, Bask et al. (2013) argue that modularity is a hidden property of a service system, i.e. of the underlying processes and resources, and is therefore not visible to the customer. On the other hand, Pekkarinen and Ulkuniemi (2008) disagree and argue that service modularity is part of the offerings and is therefore visible to the customer. They identify the 3D of service modularity: modularity in services, modularity in processes and modularity in organisation. If a firm intends to develop modular services, it must build an architecture that combines the 3D of modularity (Pekkarinen and Ulkuniemi 2008).

Ulrich (1995) defines product architecture as the scheme by which the function of a product is allocated to physical components and distinguishes between modular and integral product architectures. He

states that a modular architecture includes a one-to-one mapping from functional elements to physical components of the product, and specifies decoupled interfaces between components. An integral architecture, in contrast, includes a complex (non one-to-one) mapping from functional elements to physical components and/or coupled interfaces between components. Voss and Hsuan (2009) posit that the definitions for integral and modular product architecture given by Ulrich (1995) also hold for service architectures.

Voss and Hsuan (2009) define service architecture as the way that the functionalities of the service system are decomposed into individual functional elements to provide the overall services delivered by the system. They identify different levels of service modularity. At each level of decomposition, the architecture can be either integral or modular (Mikkola 2006, Voss and Hsuan 2009).

Based on a modular service architecture, designers can define service products for particular market segments and service configurations for individual customers. The architecture enables the designers to mix-and-match modules according to specific requirements from the set of modules the architecture comprises (Böhmman et al. 2003).

One of the challenges defining a service is to adequately choose the service granularity (Heinrich and Zimmermann 2012) because service granularity influences important aspects like the reusability of (IT) services (Haesen et al. 2008, Alahmari et al. 2010). The more coarsegrained (IT) services are, the less they may be reused and the more they may actually impose redundant functions or multiple versions (Earl 2004).

As an extensive review of the literature on service modularity shows (Dörbecker and Böhmman 2013), there do not exist any studies on service modularity using quantitative market-level data. Moreover, most of these studies focus on service modularity within a single company (e.g. Hyötyläinen and Möller 2007, de Blok et al. 2010, Lin and Pekkarinen 2011). Our research paper seeks to fill the existing gap of knowledge.

## METHOD

We analyse the complete current offering of 24 German health insurance companies for the private mandatory health insurance services. This covers around 93 per cent of the market in mandatory private health insurance in Germany.

The nature of this market is particularly suitable for a quantitative analysis because private health insurance is service in its pure sense without any tangible goods exchanged. The German private health insurance is a well-established market dating back to the 19th century and exists in its current form since the 1950s. Due to regulations, the areas of coverage are identical, notably all three areas “in-patient”, “out-patient”, and “dental care” must be covered. We exclude the fourth area “long term care” as this is by law an additive module that must be sold separately and can be obtained from different insurers.

We have obtained the service offerings in the German private health insurance market through cooperation with the company Franke & Bornberg, Germany's leading insurance brokerage platform. The firm maintains a database that stores comprehensive information on all insurance modules and offerings for various insurance markets, including the market for private health insurance services. Our study makes use of this data, as of April 2013, and examines the services offered in the market for private health insurance in Germany.

Generally, these offerings consist of modules. Following the standards in this market, a module is a legally approved tariff building block with a specific extent of coverage (e.g. "dental care expert") that can be combined with other modules to form an offering. Similarly, an offering is a combination of one or more modules that is currently supplied and can be ultimately purchased by the customer from the insurer. We exclude all offerings that do not meet the minimum legal coverage and that are therefore not considered by standard customers.

## RESULTS AND DISCUSSION

The following section provides both the presentation and the discussion of our results. We chose this combination because of the explorative nature of our work.

Table 1: Examined insurance companies and identified key numbers

Insurer	Modules	Offerings	Architectural form	Granularity		
				Min	Max	Mean
Allianz	7	12	modular	1	2	1.5
Alte Oldenb.	8	18	modular	3	4	3.3
Arag	15	91	modular	1	3	2.9
Axa	8	8	modular	2	3	2.1
Barmenia	5	5	integral	1	1	1.0
Bayerische. AG	7	10	modular	1	2	1.7
Central	3	3	integral	1	1	1.0
Conti	7	36	modular	1	4	2.8
Debeka	6	10	modular	1	2	1.6
Deutscher Ring	14	19	modular	1	3	1.9
DKV	3	3	modular	1	2	1.4
Gothaer	9	17	modular	1	4	2.7
Hallesche	9	14	modular	1	2	1.4
Hanse-Merkur	6	12	modular	1	4	2.2
Inter	3	3	integral	1	1	1.0
LKH	9	30	modular	2	3	2.8
Münchener.	11	10	modular	1	3	1.3
Nürnbergger	6	15	modular	1	3	2.1
R+V	3	3	integral	1	1	1.0
SDK	13	66	modular	2	3	2.9
SIGNAL IDUNA	6	6	integral	1	1	1.0
UKV	6	9	modular	1	2	1.7
Universa	14	46	modular	1	4	3.0
Württemberg.	5	7	modular	1	2	1.4
Sum:	183	453				

An overview of the data is listed in table 1. For each company, we identify the number of distinct modules and the number of distinct offerings. If a module or an offering exists for various deductibles, it is only counted once since deductibles are not contractual obligations and can be changed unilaterally by the insurers.

Furthermore, we identify the underlying architectural form for each company according to the definition of product architecture initially given by Ulrich (1995). If each offering of an insurance company consists of exactly one module, the service architecture is classified as “integral”. If at least one offering of an insurance company consists of more than one module, the service architecture is classified to be “modular”. Additionally, we are interested in the granularity of the offerings for each insurance company motivated by Heinrich and Zimmermann (2012). Therefore, for each insurance company, we identify the minimum and maximum number of modules an offering may consist of. Taking these two values into account, we calculate the mean value of the number of modules an offering consists of for each insurance company. The calculated values are rounded half away from zero to one decimal.

### Prevalence of modularity and architectural form

Analysing the data, we found that 19 out of 24 insurance companies exhibit a modular service architecture. Only five out of 24 insurance companies are classified to be integral. Generally, the integral insurance companies offer significantly less choice to the customers with an average of four distinct offerings per insurance company. This is in contrast to modular insurance companies with an average of 22.8 distinct offerings per insurance company.

In sum, the principle of modularity is prevalent within the market of German private health insurance services, but apparently insurance companies tend to form their own provider-specific service architecture. Although the market of German private health insurance services is a saturated and well-established market, we do not observe a convergence towards a uniform service architecture. Additional analyses suggest that the service architecture is not related to the size of the insurance company. The service architecture is also unlikely a result of historical decisions because all offerings were restructured due to the migration to unisex tariffs at the end of 2012.

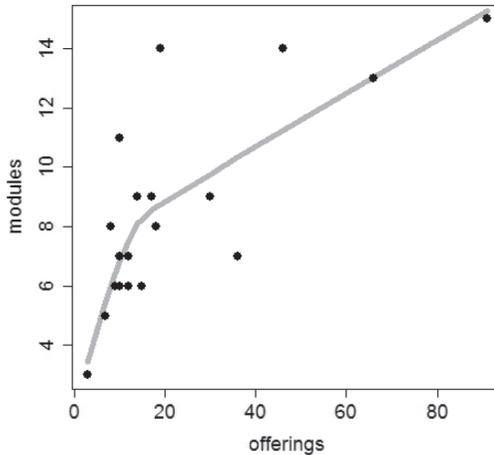
### Relationship between modularity and number of offerings

Focusing on the insurance companies classified as modular, we observe a positive relationship between the number of distinct offerings and the number of distinct modules, see figure 1. To clarify these results, we added a smoothing line given by Friedman (1984). This smoothing line indicates a degressive relationship between the number of distinct offerings and the number of distinct modules. Moreover, it is noticeable that there does not exist any insurance company with more than 15 distinct modules, whereas the number of distinct offerings varies between three and 91. Thus, the number of modules does not grow in proportion

with the number of offerings. This is in line with the combinatorial flexibility that a modular service architecture provides.

Moreover, the modular service architectures vary with regard to the number of modules. Most companies exhibit a modular service architecture with a low number of modules and a limited number of offerings. In general, the service providers exploit the modular service architecture to provide some, albeit limited, choice to the customer.

Figure 1: Numbers of modules vs. offerings for modular insurance companies

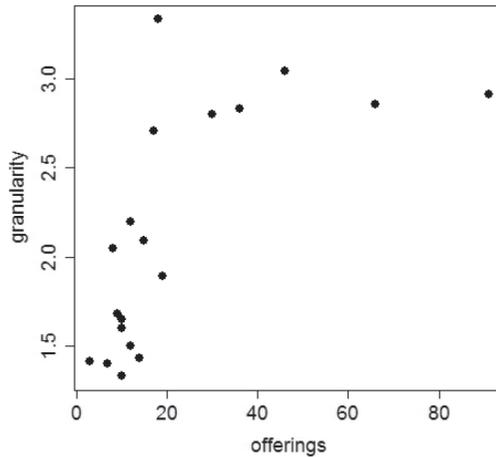


### Relationship between modularity, granularity and choice

Analysing the granularity of the offerings for modular insurance companies, we observe a positive correlation between the granularity, defined by the mean number of modules per offering for each insurance company, and the extent of choice for customers, defined by the number of offerings per insurance company, see figure 2. More in detail, insurance companies with a smaller number of offerings have offerings that generally consist of less modules. The more choice an insurance company provides to the customer, the more granular these offerings become.

In sum, we observe differences in the extent of modularity across different insurance companies. There seems to be a saturation effect that prevents offerings to increase in granularity. In our case, this saturation area is reached at an average of three modules per offering. The data indicate a similar effect in comparing the granularity with the number of modules per insurance company. This might be due to limited information processing of the customers.

Figure 2: Granularity of offerings vs. choice for modular insurance companies



## CONCLUSIONS, LIMITATIONS, AND OUTLOOK

This study is the first to assess the prevalence of service modularity at the market level based on quantitative, cross-sectional data. The reported findings thus complement extant research on the company or offering level. The data shows that the majority of providers of private health insurance services in Germany have adopted a modular service architecture. However, the providers have not converged on a uniform architectural form. The identified service architectures vary in the granularity of service offerings and the extent of customization available for customers. This diversity of service architectures is a surprising finding for a very mature service market. Nevertheless, similarities exist between the service architectures of the majority of providers. While our current analysis cannot separate industry-level from company-specific determinants of architectural forms, such research should be a promising avenue. Such research could corroborate the conceptual and theoretical work advanced by Voss and Hsuan (2009) and Schilling (2000) that point to industry effects on service architecture.

In line with theory, we found a relationship between customer choice and modularity. Providers use modularity to match their offerings to the heterogeneous demands of individual customers. Those providers seeking to offer greater customization also have a more granular modular architecture while at the same time avoiding overly complex modular structures.

## ACKNOWLEDGEMENT

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research summarised here.

## REFERENCES

- Alahmari, S., De Roure, D. and Zaluska, E., (2010), "A model-driven Architecture Approach to the efficient Identification of Services on Service-oriented Enterprise Architecture", Proceedings of the Workshop on Service oriented Enterprise Architecture for Enterprise Engineering
- Baldwin, C. Y. and Clark, K. B., (1997), "Managing in an age of modularity", Harvard Business Review, 75 84-93
- Bask, A., Merisola-Rantanen, H. and Tuunanen, T., (2013), "Service Process Modularization in Supply Chain Management: A Case Study of three finnish E-Stores", Unpublished manuscript presented at 4th International Service Modularity Seminar
- De Blok, C., Luijckx, K., Meijboom, B. and Schols, J., (2010), "Modular care and service packages for independently living elderly", International Journal of Operations and Production Management, 30 (1) 75-97
- Böhmman, T., Junginger, M. and Krcmar, H., (2003), "Modular service architecture: a concept and method for engineering IT services", Proceedings of the 36th Hawaii International Conference on System Sciences
- Böttcher, M. and Klinger, S., (2011), "Providing a method for composing modular B2B services", Journal of Business and Industrial Marketing, 26 (5) 320-331
- Dörbecker, R. and Böhmman, T., (2013), "The concept and effects of service modularity – a literature review", Proceedings of the 46th Hawaii International Conference on System Sciences
- Earl, T., (2004), Service-Oriented Architecture - A Field Guide to Integrating XML and Web Services, Prentice Hall PTR
- Friedman, J. H., (1984), "A variable span scatterplot smoother", Technical Report 5, Laboratory for Computational Statistics
- Haesen, R., Snoeck, M. Lemahieu, W. and Poelmans, S., (2008), "On the Definition of Service Granularity and its architectural Impact", Advanced Information Systems Engineering, Springer Berlin Heidelberg, 375-389
- Heinrich, B. and Zimmermann, S., (2012), "Granularity Metrics for IT Services", Proceedings of Thirty Third International Conference on Information Systems, 1-19
- Hyötyläinen, M. and Möller, K., (2007), "Service Packaging: key to successful provisioning of ICT solutions", Journal of Service Marketing, 21 (5) 304-312

- Lin, Y. and Pekkarinen, S., (2011), "QFD-based modular logistics service design", *Journal of Business and Industrial Marketing*, 26 (5) 344-356
- Mikkola, J. H., (2006), "Capturing the degree of modularity embedded in product architectures", *Journal of Product Innovation Management*, 23 (2) 128-156
- Mikkola, J. H. and Gassmann, O., (2003), "Managing modularity of product architectures: toward an integrated theory", *Transactions on Engineering Management*, 50 (2) 204-218
- Pekkarinen, S. and Ulkuniemi, P., (2008), "Modularity in developing business services by platform approach", *International Journal of Logistics Management*, 19 (1) 84-103
- Schilling, M. A., (2000), "Toward a general modular systems theory and its application to inter firm product modularity", *Academy of Management Review*, 25 (2) 312-334
- Ulrich, K. T., (1995), "The role of product architecture in the manufacturing firm", *Research Policy*, 24 (3) 419-440
- Ulrich, K. T. and Tung, K., (1991), "Fundamentals of product modularity", *Proceedings of the 1991 ASME Winter Annual Meeting Symposium on Issues in Design/Manufacturing Integration*, 1-14
- Voss, C. A. and Hsuan, J., (2009), "Service Architecture and Modularity", *Decision Sciences*, 40 (3) 541-569

# FACEBOOK USAGE BY LOCAL RESTAURANTS: A LARGE SCALE SURVEY

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## INTRODUCTION

Social media are rapidly becoming a viable way of service marketing and customer engagement in the hospitality industry. Facebook, for instance, allows restaurants to publish information, multimedia content and engage with their customers e.g., to answer questions or learn about their preferences. Being active on social media has become increasingly important as customers more frequently turn to social media and the Web for restaurant reviews before deciding to visit (Lewis and Chambers, 2000).

In this study we analyze a large dataset of Facebook activities of local restaurants in Amsterdam, Houston, London and New York. Doing so gives broad insights in their Facebook usage and the communication patterns between them and their costumers. The dataset is quite rich and the presented statistics are merely the tip of the iceberg.

## RELATED WORK

Surprisingly, few empirical studies focus on the effectiveness of Facebook for service marketing and customer engagement within the hospitality sector and in particular the restaurant segment. Zhang et al. (2011) and Kwok and Yu (2013) found that restaurants mainly used Facebook as a tool for advertising and seldom to actively engage customers. Their results are based on content analysis of Facebook posts. Noticeable was that the sample groups were quite small and mainly consisted of wellknown restaurants.

## METHODOLOGY

We generated a list of restaurants in the selected cities by accessing TripAdvisor.com. This gave us a list of 23,723 restaurants along with information such as the location, cuisines and ratings. We then tried to match our initial list using the Facebook Graph API. Initially we searched for restaurant names but better results were obtained by searching for locations. We transformed the restaurant addresses into latitude and longitude (geolocation) using Yahoo! GeoPlanet. and queried the Graph API for “places” (physical locations with a Facebook page) that matched the term “restaurant”. This generated a list of 59,133 candidate pages. Note that, by searching for places we also found restaurants that were not on the initial list. By excluding all automatically generated pages we narrowed this down to a list of 18,365 candidates.

We further pruned this list by only include pages for which the Graph API returned “restaurant/café” as main category. This unfortunately excludes

restaurants that have for instance “local business” as their main category. Finally, we excluded well-known restaurant chains. This resulted in a list consisting of 10,446 restaurant Facebook pages. Detailed information of these restaurants including posts, likes and comments were retrieved and stored into a database for further analysis.

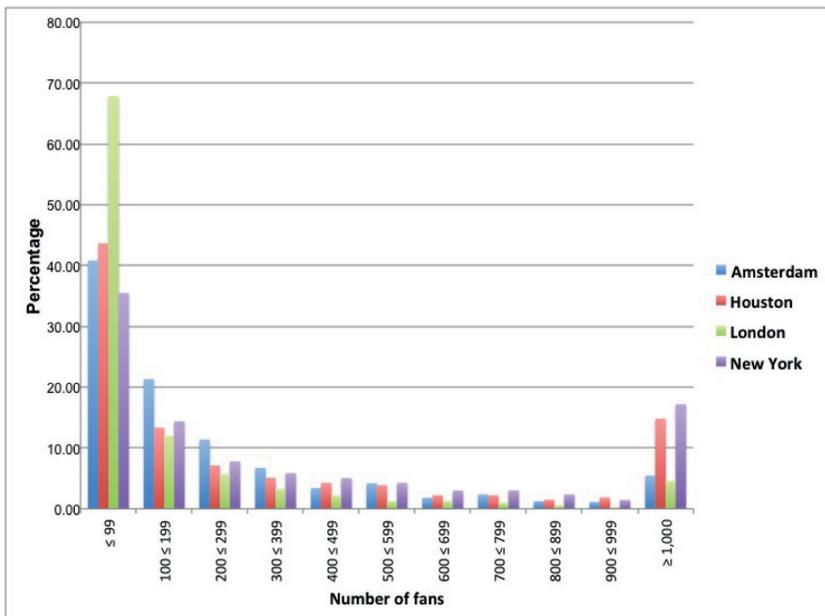
## RESULTS

Table 1 shows the basic statistics of the 10,446 restaurants. In total, the restaurants have 4,799,765 likes, users “checked in” 4,451,463 times and mentioned that they have been there 11,765,528 times. Figure 1 gives the distribution of fans per restaurant. The majority of restaurants have between 0 and 99 fans.

Table 1: Basic statistics

	Amsterdam	Houston	London	New York
Restaurants	877	1,666	4,649	3,254
Fans	278,890	1,045,647	1,154,572	2,320,656
Checked-ins	246,968	1,288,976	727,567	2,187,952
Mentions of visit	757,977	3,054,102	2,160,991	5,792,458

Figure 1: Distribution of fans per restaurants

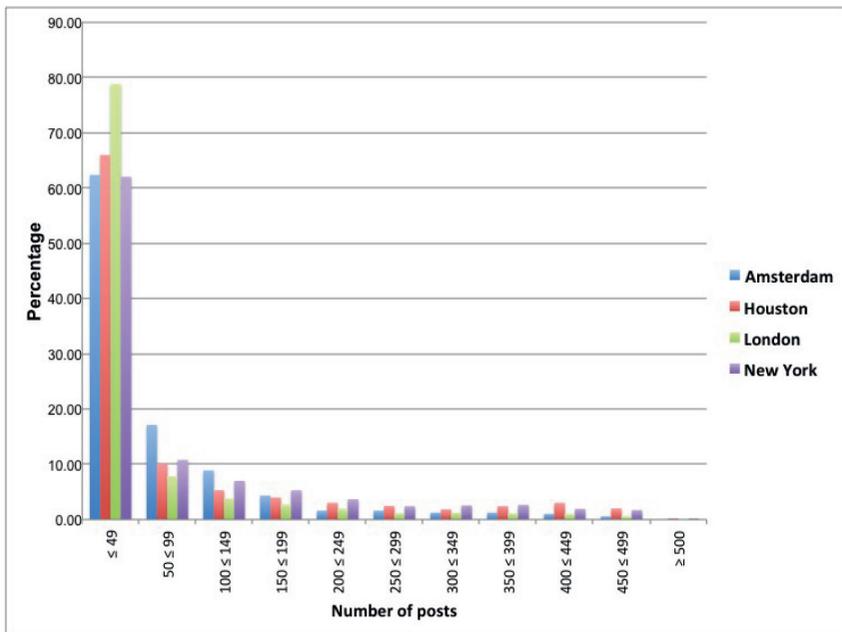


In total, the restaurants posted 655,260 updates on their page (Table 2). The majority of restaurants posted between 1 and 100 times over the lifetime of their Facebook account (see Figure 2). In total, these posts received 3,613,598 “likes” and 438,252 comments from users. Around 40% of the posted content receives zero likes or comments.

Table 2: Posts by restaurants and their interactions

	Amsterdam	Houston	London	New York
Posts	55,058	131,844	201,492	266,826
Likes	209,833	941,152	769,318	1,693,295
Comments	36,651	115,370	114,847	171,384
Posts with zero response	39.7%	35.9%	44%	38.3%
Posts with $\geq 1$ like	58.3%	62.3%	54.2%	60.3%
Posts with $\geq 1$ comment	23.8%	23.5%	19%	21.2%

Figure 2: Distribution of posts per restaurants



A total of 1,291,255 unique users actively interacted with restaurants and other users by liking, commenting or by posting messages on the restaurants wall (see Table 3). The like functionality is most popular by far. A small number of users both “liked” and “commented” on posts.

Users added a total of 135,241 posts to pages of restaurants. Note that the vast majority of these posts did not get a reaction from the restaurants (see Table 4). Of the 10,446 restaurants only 2,737 interacted with user posts by either liking or commenting

Table 3: Facebook users that interacted with restaurants

	Amsterdam	Houston	London	New York
Total users	77,783	303,808	281,802	627,862
Liked ≥ 1 post	87%	91.1%	87.9%	91.2%
Commented on ≥ 1 post	21.9%	16.4%	18.4%	13.6%
Liked ≥ 1 & commented ≥ 1	4.5%	3.1%	3.7%	2.6%
Posted ≥ 1 message on restaurant wall	8.9%	5.9%	8.3%	6%
Number of posts added by users on restaurant wall	10,272	28,772	34,148	62,049

Table 4: Interaction with user posts by restaurants

	Amsterdam	Houston	London	New York
Likes	14,263	36,584	31,363	78,705
Comments	5,774	14,501	18,544	23,086
Likes by restaurants	2.3%	3.1%	19.7%	7.7%
Comments by restaurants	1.4%	3.6%	24%	9.6%
Restaurants liked ≥ 1 post	6.3%	3.6%	21.4%	37.6%
Restaurants that commented on ≥ 1 post	5%	3.8%	20.4%	36.1%

## CONCLUSIONS

We collected data of 10,446 restaurant and 1.3 million unique users who interacted with these restaurants on Facebook. 45.4% of the analysed restaurants have between 0 and 99 fans. And 70.2% has less than 50 posts.

In total, 655,260 posts were added by restaurants, which received 3,613,598 “likes” and 438,252 comments from users. Of these users, 90.2% gives a “like”, 15.8% comments and 6.7% posts messages on the wall of the restaurant. In total 135,241 posts were added by 85,858 users. Of these user posts, 8.5% were liked and 11.7% received a comment by restaurants. In total, only 2,737 restaurants interacted with user posts by either liking or commenting. While Facebook usage by restaurants is fairly common, only few restaurants interact with their users.

## ACKNOWLEDGEMENTS

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## REFERENCES

Kwok, L., & Yu, B., (2013). “Spreading Social Media Messages on Facebook: An Analysis of Restaurant Business-to-Consumer Communications”. *Cornell Hospitality Quarterly*. 54 (1) 84-94.

Lewis, R., & Chambers, R. (2000). *Marketing leadership in hospitality: Foundations and practices*. New York: John Wiley & Sons.

Zhang, L., Mattila, A. S., & Cranage, D. A. (2011). *Become a Fan: A Conceptual Model for Social Media Marketing*. Paper presented at the Graduate Student Research Conference in Hospitality and Tourism

# FAMILY AND CUSTOMER PERCEPTIONS OF PSYCHOLOGICAL OWNERSHIP

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## EXTENDED ABSTRACT

Family is viewed as one of the dominant themes in marketing experiences and services to customers (Aaker, 1997) and hospitality firms often promote associations with family and the memories that families can create at their properties. For instance, the Walt Disney Company's "Let the Memories Begin" promotion solicits photos and stories from family vacations that are posted on the company's web site. Similarly, the Grand Wailea, a Waldorf Astoria resort in Maui, offers the Camp Grande mini-resort for kids and activities that children and parents can participate in together.

Some evidence suggests that firms can benefit from positive associations from family memories generated at their properties that can endure for decades. For example, in a series of in-depth interviews, researchers find that respondents who dined at the In-N-Out Burger restaurant chain with parents and grandparents as children often retain their loyalty to the company into adulthood (Braun-LaTour & LaTour, 2007). Appealing to family memories has also been suggested as a method of affective advertising to repair consumer perceptions of a brand following a public relations crisis (Braun-LaTour, LaTour, & Loftus, 2006).

However, memories of family can also trigger negative associations with consequences for individuals' future behaviors. For instance, memories of family conflicts can influence intergenerational relations decades after the events occur (Webster & Herzog, 1995). Conversely, family memories can be held so dearly that individuals become possessive of the locations where those memories were made. For example, the decision to close the "Mr. Toad's Wild Ride" attraction at Walt Disney World was met with highly-publicized resistance from some consumers, who held unofficial protests in the park (i.e., "Toad-ins") and initiated an online campaign to pressure Disney to reverse its decision (Schneider, 1998).

This paper explores the consequences when consumers associate hospitality firms with family and family memories by exploring the role of psychological ownership. Psychological ownership refers to customer perceptions that they have some degree of ownership, or psychological investment, in a hospitality firm (Asatryan & Oh, 2008). As customers are encouraged to create family memories at hospitality firms, they may develop a sense of psychological ownership over those memories and, in turn, the places where those memories are created. Given that individuals often prioritize possessions that connect them to family (e.g., family photos and scrapbooks) more than possessions with greater monetary value (Csikszentmihalyi & Rochberg-Halton, 1981), customers can also develop a sense of possessiveness or ownership toward places where family memories were made, such as restaurants, hotels, or theme parks (Shaw, Havitz, & Delemere, 2008).

Drawing on archived online consumer protests of the Disney Company's decision to remove the "Mr. Toad" attraction from its Walt Disney World theme park, this study investigates how discussing family in the context of the closure of the attraction affects the emotional content of individuals' statements. Using computerized content analysis software, the Linguistic Inquiry and Word Count (Tausczik & Pennebaker, 2010), I find that customers who mention family in their protests of the Disney Company's decision use a significantly greater percentage of words indicating perceptions of psychological ownership (e.g., "mine" and "ours"), but a significantly lower percentage of positive emotion words than protestors who do not mention family.

#### Figure 1: Examples of Consumer Protest Statements Referencing Family

"My earliest memory of Walt Disney World is going on Mr. Toad's Wild Ride with my dad...not only would [the ride's] removal be a tragedy to those who have never been able to experience it, but...it would take away part of my childhood."

"I heard the news from a friend and I am shocked and mad! I grew up on Disney and my family goes to Walt Disney World almost every year. If they keep taking away the classics, like Mr. Toad, the Magic Kingdom will eventually look nothing like the place I grew up in and love so dearly."

"I am aghast to learn that you are considering doing away with Mr. Toad's Wild Ride in Fantasyland. This ride has been a favorite of our family since our first visit to Walt Disney World in 1976."

The findings from this research suggest that associations between family and hospitality firms may facilitate consumer perceptions of psychological ownership. Feelings of psychological ownership among customers have been associated with repurchasing intentions and word-of-mouth advertising, leading to calls for additional systematic inquiry investigating the antecedents of customer perceptions of psychological ownership in the hospitality industry (e.g., Asatryan & Oh, 2008). This research also raises the possibility that there may be unintended consequences when hospitality firms actively promote associations between their brand and consumers' families, particularly if consumers resist changes because of their attachment to family memories created at the organization's hotels, theme parks, or restaurants. My findings are consistent with suggestions that psychological ownership can have both positive and negative aspects for both individuals and organizations (Pierce, Kostova, & Dirks, 2003). I discuss the implications of these findings for service organizations and describe directions for additional research.

## REFERENCES

- Aaker, J. (1997). Dimensions of brand personality. *Journal of Marketing Research*, 34, 347-357.
- Asatryan, V. S., & Oh, H. (2008). Psychological ownership theory: An exploratory application in the restaurant industry. *Journal of Hospitality & Tourism Research*, 32, 363-386.
- Braun-LaTour, K. A., & LaTour, M. S. (2007). Using childhood memory elicitation to gain insights into a brand at a crossroads: The In-N-Out Burger situation. *Cornell Hospitality Quarterly*, 48, 246-273.
- Braun-LaTour, K. A., LaTour, M. S., & Loftus, E. F. (2006). Is that a finger in my chili? Using affective advertising for postcrisis brand repair. *Cornell Hospitality Quarterly*, 47, 106-120.
- Csikszentmihalyi, M. and Rochberg-Halton, E. (1981). *The meaning of things – Domestic symbols and the self*. Cambridge: Cambridge University Press.
- Pierce, J. L., Kostova, T., & Dirks, K. (2003). The state of psychological ownership: Integrating and extending a century of research. *Review of General Psychology*, 7, 84-107.
- Schneider, M. (1998). *Mr. Toad appears to be roadkill*. Associated Press, September 1.
- Shaw, S. M., Havitz, M. E., & Delamere, F. (2008). "I decided to invest in my kids' memories": Family vacations, memories, and the social construction of the family. *Tourism Culture and Communication*, 8, 13-26.
- Tausczik, Y. R., & Pennebaker, J. W. (2010) The psychological meaning of words: LIWC and computerized text analysis methods. *Journal of Language and Social Psychology*, 29, 24-54.
- Webster, P. S., & Herzog, A. R. (1995). Effects of parental divorce and memories of family problems on relationships between adult children and their parents. *Journal of Gerontology*, 50B, S24-S34.

# FEELING “NICKEL AND DIMED”? UNDERSTANDING CONSUMER APPRAISALS OF ANCHILLARY FEES

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## ABSTRACT

Over the last few years, ancillary fees have become a significant source of revenue for businesses in various service industries. The popular press in the U.S. has used the term “nickel and dimed” as companies charge consumers numerous (optional and otherwise) fees for new and/or those earlier considered as “free.” Despite media-focused controversy, cross-industry research on consumers’ perceptions of ancillary fees has been sparse. Based on attribution and fairness theory, the objective of this paper is to investigate consumer appraisals of being “nickel and dimed” in three consumer service industries (banking, hotels, and airlines). Implications for managers and researchers are discussed.

## INTRODUCTION

In recent years, businesses in various consumer service industries have begun to unbundle their service offerings by introducing a variety of optional and mandated ancillary fees for supplementary services that were previously provided as “free” (Ancarani et al. 2009; Marshall 2006; Martin 2011; Orwoll 2010; Smith 2011; Thornton 2003; Waller 2008). For example, many airlines in the United States and elsewhere now charge fees for checked baggage, priority boarding, and more legroom. In the hotel industry, new fees have been introduced for housekeeping, room-service trays, and bellhops – services once thought to be part of room rates (Martin 2011). Comparably, large banks in the U.S. (e.g. Chase, Wells Fargo) have started to charge customers new fees, e.g., for paper statements and debit cards (Siegel Bernard and Protess 2011). Such ancillary fees have become a significant source of revenue. Airlines collected more than US\$3.3 billion in baggage fees and more than \$2.3 billion in reservation and cancellation fees in 2011; in the hotel industry a record of \$1.85 billion in fees were collected in the same year (Rosenbloom 2012).

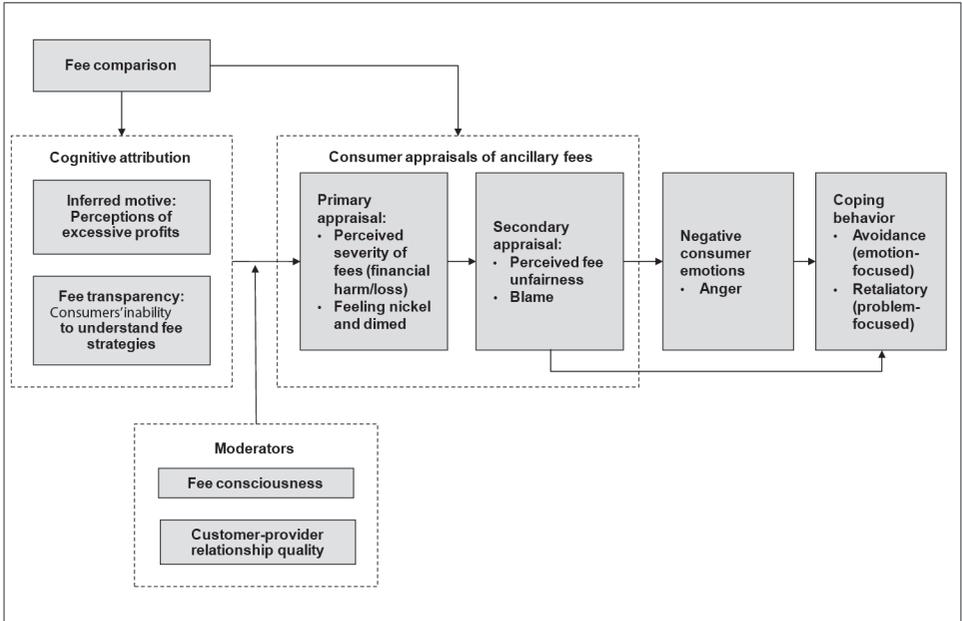
The practice of charging ancillary fees has received increased coverage in the media. News reports in the U.S. have termed the practice “nickel and dimed” to describe à la carte pricing schemes that do not create discernable value for customers by enhancing service or cost savings but instead have the purpose of improving the firm’s bottom line. Common wisdom and numerous media reports suggest that these fees evoke negative psychological and behavioural reactions as consumers believe such fees to be unfair. Thereby, understanding consumers’ perceptions of feeling “nickel and dimed” is of interest both to service management researchers and practitioners. Previous research has shown that brand attitudes decrease after consumers realize that they misestimated the

total of partitioned prices, attributing the cause of that error to the provider (Lee and Han 2002). Although some industry experts have claimed that fees have not resulted in severe hostile responses (Sorensen 2010), other research indicates that, consumers may engage in “anti-branding behaviour” (Krishnamurthy and Kucuk 2009; Kucuk 2008) that can lead to significant brand damage. For instance, a proposed monthly fee for ATM usage by Bank of America in 2011 resulted in an online petition that was signed by more than 300,000 customers, threatening to leave the bank (Kim and Gutman 2011). On the other hand, some industry experts have claimed that fees have not resulted in severe hostile responses (Sorensen 2010). To contribute to the lack of research, the purpose of this study is to examine consumer appraisals of being “nickel and dimed” in three consumer service industries (banking, hotels, and airlines).

## CONCEPTUAL FRAMEWORK

Price fairness perceptions are defined as “a consumer’s assessment and associated emotions of whether the difference (or lack of difference) between a seller’s price and a comparative other party is reasonable, acceptable, or justifiable” (Xia et al. 2004, p. 3). Researchers have used a variety of theories and principles to study price fairness and its possible antecedents, including equity theory, dual entitlement theory, principle of procedural justice, fairness theory and attribution theory (Bechwati et al. 2009). Extant research suggests that individuals make moral judgements (i.e., perceived fairness) by making comparisons between a given price and internal/external reference prices on the basis of their past payment experience or the firm’s pricing communication (Chung and Petrick 2012; McCarville et al. 1996). Based on attribution and fairness theory, we propose that price comparison and cognitive attribution influence perceived fee fairness, which in turn leads to negative emotions and unfavourable customer behavioural intentions (c.f. Chung and Petrick 2012). Following Lazarus (1968) transactional appraisal process we distinguish a primary and secondary appraisal of fees. Figure 1 illustrates our conceptual model.

Figure 1: Conceptual framework



## RESEARCH DESIGN

This study employs a mixed method approach to develop a deep understanding of consumer appraisals of ancillary fees. The research design includes exploratory focus groups to help refine the study. Focus groups are followed by a survey that collects quantitative and additional qualitative data.

## REFERENCES

References are available on request.

## **GIVING THE CUSTOMER THE LITTLE EXTRA: A CALL FOR CAUTION**

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### **ABSTRACT**

This study employs an experimental method to examine the effects of providing customers with preferential treatment in service encounters allowing for explicit customer-to-customer comparisons. The results indicate that preferential treatment is perceived as relatively unjust – both by those who receive it and those who do not receive it. These results are in tune with the assumption that customers are sensitive, in justice terms, for how resources are allocated. However, the results also indicate that customer satisfaction is boosted by receiving preferential treatment, yet different forms of receiving it in relation to other customers have different satisfaction implications.

### **INTRODUCTION**

Some service marketing scholars, and many practitioners, believe that it is beneficial for the firm to provide customers with preferential treatment, such as when a customer is getting a better price, is being placed higher on a priority list if there is a queue, is receiving more attention, and is getting faster service than other customers (Gwinner et al 1998). Preferential treatment thus implies that the customer receives something “extra”.

A closer inspection of studies dealing with the link between preferential treatment and customer satisfaction, however, reveals that they have been carried out in contexts in which the customer is receiving the extra when no other customers are present. Yet many service encounters between the service worker and a focal customer take place in the vicinity of other customers (e.g., ordering and eating in a restaurant and being served by the cabin crew onboard an airplane). This social setting calls for caution, we argue – because it invites the possibility for the customer to compare what s/he receives with what other customers receive (Söderlund and Gabrielson 2011). And as many previous authors, we assume that human beings in general are hardwired to make comparisons with others when the possibility to do so exists.

In the present study, then, we examine what happens when the customer receives something extra from a service worker versus when the customer does not receive the extra, and we do so in a service encounter context in which also other customers are present. The extra in our study is a surprising element added to the core offer by the service worker. As in previous studies of preferential treatment, we assume that receiving the extra is likely to have an impact on customer satisfaction. In contrast to

many existing studies, however, we assume that receiving or not receiving preferential treatment is likely to evoke also justice perceptions (Mayser and von Wangenheim 2012), which we view as a mediating variable in relation to customer satisfaction.

## THEORETICAL FRAMEWORK AND HYPOTHESES

### Perceived justice

Our notion of justice perceptions is derived from equity theory, in which inter-personal comparisons is a crucial point of departure. Equity theory states that a resource allocation involving several individuals would result in that a person P compares his/her ratio of rewards to inputs against that of another individual O (Adams 1963, Ajzen 1982, Konow 2003). Three main outcomes of this comparison are distinguished. First, if P perceives O's reward/input ratio to be equal his or her own, then P will perceive that justice is at hand. This is called equity-reward. If P perceives that the ratio is unequal, however, then injustice exists, and two forms of injustice are distinguished: under-reward (P's reward/input ratio < O's reward/input ratio) and over-reward (P's reward/input ratio > O's reward/input ratio).

Thus, receiving more than others, given the same input (i.e., over-reward), is a form of injustice in equity theory; a central tenet of this theory is that people are motivated in their social interactions not only by self-interest, but also by a desire to establish or restore perceived equity and to reward or punish others for behavior they perceive as just or unjust, respectively (Konow 2003). This desire, in turn, may be predicated on a motivation to diminish wrangling and to encourage efficiency in exchange relationships. Moreover, the two forms of injustice are assumed to be asymmetric, because the level of perceived justice tends to be higher for over-rewards compared to under-rewards (Adams 1963, Ajzen 1982, O'Malley and Becker 1984). This aspect of equity theory implies a somewhat egoistic individual; injustice is expected to be perceived as less salient when it results in a personally advantageous outcome (Wicker and Bushweiler 1970).

Consider, then, a service encounter in which a focal customer (P) receives service from a service worker who is also providing service to other customers. In this situation, there are thus several other customers (several Os) that can serve as comparison persons for P. We assume, however, that P is particularly likely to make comparisons with a specific other person (O) that appears to be similar to P (Adams 1963, Mussweiler 2003), rather than to make comparisons with some aggregation of customers. In this situation, several ways for P to receive the extra, and to not receive it, can be distinguished along the lines of equity theory:

- (1) Equity-reward: service resulting in no extra for P and no extra for O (and no extra for any other customer present)
- (2) Under-reward: service resulting in no extra for P, but extra for O (and no extra for any other customer present)

(3) Over-reward: service resulting in the extra for P, but no extra for O (and no extra for any other customer present)

In situation (3), then, P is the only customer receiving the extra (i.e., the extra is unique). To take into account that many firms provide several customers with something extra (i.e., the extra is not always unique), we add an additional type of reward in relation to traditional equity theory, namely the non-unique over-reward:

(4) Non-unique over-reward: service resulting in the extra for both P and O (but no other customer receives the extra)

With this framework there are two ways – in a service encounter in which also others are present – for customer P to not receive the extra (1 and 2). There are also two ways for P to receive the extra (3 and 4). In tune with equity theory, and given that an allocation in which each customer receives the same as other customers (i.e., equity-reward) is perceived as the most just outcome, we predict that equity-reward would produce a higher level of perceived justice than under-reward, over-reward, and non-unique over-reward. Hence, we hypothesize the following:

H1: Equity-reward results in a higher level of perceived justice than under-reward, over-reward, and non-unique over-reward

#### Customer satisfaction

Service researchers have identified a positive association between perceived justice and customer satisfaction in service failure situations (Gelbrich and Roschk 2011, Maxham and Netemeyer 2002). If perceived justice indeed is a strong predictor of customer satisfaction, it may thus be assumed that the four reward situations described above would affect customer satisfaction similarly to perceived justice itself (i.e., as predicted in Hypothesis 1).

However, given that the extra is producing surprise, a positively valenced emotion with a high arousal charge, it is assumed that surprise can interrupt various cognitive processes (Ben-Ze'v 2000). One expected result is that the surprising nature of receiving the extra overrides perceived justice in the impact on customer satisfaction. At the same time, several studies indicate that positively charged surprises have a positive impact on customer satisfaction (e.g., Bitner et al 1990). Given that it is more positively surprising to receive the extra as opposed to not receiving it, and given that receiving the extra has the interruptive capacity to reduce the causal potency of perceived justice vis-à-vis customer satisfaction, we expect that receiving the extra is more satisfying than not receiving it. Therefore, and as an extension beyond the original equity theory, we hypothesize the following with regard to the two reward situations in which the customer receives the extra (over-reward and non-unique over-reward) versus the two situations in which the customer does not receive the extra (under-reward and equity-reward):

H2: Over-reward results in a higher level of customer

satisfaction than under-reward and equity-reward

H3: Non-unique over-reward results in a higher level of customer satisfaction than under-reward and equity-reward

## RESEARCH METHOD

### Overview of the method

We used a between-subjects experimental design with four treatment groups, one for each of the four reward types derived from equity theory, and with perceived justice and customer satisfaction as the dependent variables. Each participant either received an under-reward, an equity-reward, an over-reward, or a non-unique over-reward from a service worker in a service encounter in which other customers were present. Thus, we manipulated rewards (in terms of distributive justice) and kept inputs constant to allow for interpersonal reward comparison.

### Stimulus development

We employed a text-based role-play scenario to manipulate the reward levels; we asked each participant to assume the role of a customer who interacted with a service worker. We decided that the service encounter should take place in an aircraft, involving the interaction with one particular flight attendant. The scenario described how a passenger (P), together with some other passengers, and a flight attendant, took a hotel bus to an airport, and in the next step discovered that the flight attendant from the bus was working on P's flight. Four versions of the scenario (the full text can be obtained from the authors) were created: (1) neither P nor O were recognized by the flight attendant and no one received any extra (equity-reward), (2) only O, but not P, was recognized by the flight attendant and O received a bottle of champagne "to celebrate the happy coincidence of meeting again" (under-reward), (3) P, but not O, was recognized by the flight attendant and P was given a bottle of champagne (over-reward), and (4) both P and O were recognized by the flight attendant and both were given a bottle of champagne (non-unique over-reward).

### Data collection and participants

Each scenario version was followed by questionnaire items to measure the variables in our hypotheses (the measures are reported below). The scenarios were randomly allocated to the participants (N = 184; 89 men and 95 women;  $M_{\text{age}} = 23$ ), which we recruited from undergraduate students participating in seven different university courses. There were no significant differences in age between the four treatment groups ( $F = .29, p = .99$ ), and no significant differences in the gender distribution ( $X^2 = 1.58, p = .68$ ), indicating that the random distribution of the treatments had cancelled out demographic differences between the treatment groups.

Measures

We measured perceived justice in terms of systemic justice; that is to say, we measured the overall perception of justice provided by the (female)

service worker in the service encounter with items adapted from Beugré and Baron (2001) and Carr (2007). The measure comprised six items scored from 1 (do not agree at all) to 10 (agree completely): “The decisions she made were fair”, “Fairness seems to be an important object for her”, “She delivers good outcomes for all customers regardless of who they are”, “She is consistent in her dealings with all customers”, “She treats all customers in a balanced way”, and “She tries to meet all customers’ needs fairly” (Cronbach’s alpha = .93). To measure customer satisfaction, we asked the following question: “What is your overall impression of the airline after this flight?”. It was followed by three satisfaction items used in several national satisfaction barometers (cf. Fornell 1992): “How satisfied or dissatisfied are you with this airline?” (1 = very dissatisfied, 10 = very satisfied), “To what extent does this airline meet your expectations?” (1 = not at all, 10 = totally), and “Imagine an airline that is perfect in every respect. How near or far from this ideal do you find this airline?” (1 = very far from, 10 = cannot get any closer). Alpha for this customer satisfaction scale was .84.

## ANALYSIS AND RESULTS

The means for the dependent variables in the four treatment groups are presented in Table 1. We used two separate one-way ANOVAs to test the hypotheses.

Table 1: Cell means for the four groups

	Equity- reward	Under- reward	Over- reward (unique)	Over- reward (non-unique)
Perceived justice	7.51	3.42	3.98	4.40
C u s t o m e r satisfaction	6.37	5.84	7.26	8.18

With regard to H1, the omnibus ANOVA showed that all perceived justice means were not equal between the groups ( $F = 48.64, p < .01$ ). Post hoc tests (we used Scheffé’s test) showed, as hypothesized, that equity-reward produced a significantly higher level of perceived justice than under-reward ( $p < .01$ ), unique over-reward ( $p < .01$ ), and non-unique over-reward ( $p < .01$ ). H1 was thus supported. No other pairwise differences were significant at the 5 percent level. It can be noted that equity theory’s proposed asymmetry between under-reward ( $M_{\text{justice}} = 3.42$ ) and (unique) over-reward ( $M_{\text{justice}} = 3.98$ ) did materialize in our data, yet this difference was not significant. In other words, in our scenario situations, the outcome in which no customer – neither P nor O, nor any other customer – received an extra was perceived as the relatively most just outcome.

As for H2 and H3, the results in Table 1 suggests that the positively charged nature of receiving the extra can override the impact of perceived justice on customer satisfaction – in the sense that receiving the extra (in terms of the two types of over-reward) is producing higher levels of satisfaction than not receiving it. Both H2 and H3 were assessed with an ANOVA in

which customer satisfaction was the dependent variable. The omnibus test showed that the cell means for satisfaction were not equal ( $F = 21.90$ ,  $p < .01$ ), and post hoc tests revealed that (unique) over-reward produced a higher level of customer satisfaction than did under-reward ( $p < .01$ ) and equity-reward ( $p < .05$ ). This means that H2 was supported. In addition, the post hoc tests showed that the non-unique over-reward produced a higher level of customer satisfaction than under-reward ( $p < .01$ ) and equity-reward ( $p < .01$ ). H3 was thus supported.

It can be noted that one additional cell mean difference for satisfaction turned out to be significant ( $p < .05$ ): receiving a non-unique over-reward produced a significantly higher level of satisfaction ( $M_{\text{satisfaction}} = 8.18$ ) than receiving a unique over-reward ( $M_{\text{satisfaction}} = 7.26$ ). Given that the non-unique over-reward was perceived as relatively more just than the unique over-reward (although this difference was not significant), this suggests that the causal potency of perceived justice is not totally overshadowed when the extra is received: the relatively lower level of justice for the unique over-reward may have reduced the level of customer satisfaction in relation to the non-unique over-reward. In any case, and for firms interested in boosting satisfaction for customers who do receive the extra, our results suggest that non-unique extras would be preferable to unique extras.

## DISCUSSION

Our results confirm the results of some previous studies of the positive effects of receiving something extra on customer satisfaction (e.g., Gwinner et al 1998) in a context in which several customers are present, in the sense that we found that receiving the extra boosted satisfaction in relation to not receiving it. At the same time, however, our results also show that it is perceived to be more unjust when someone – either the focal customer or another customer – receives the extra.

The idea that the customer should be satisfied has indeed become dominant in many firms, and our results with regard to customer satisfaction can be viewed as suggesting that providing customers with something extra is a viable route to increase satisfaction – for those customers that do receive the extra. Given a significantly higher level of satisfaction in the non-unique over-reward situation ( $M_{\text{satisfaction}} = 8.18$ ) than in the unique over-reward situation ( $M_{\text{satisfaction}} = 7.26$ ), this particular finding also suggests that extras should perhaps not be handed out so that the receiver is the only customer who receives the extra.

Receiving the extra, however, implies that only some customers would get it, otherwise the “extraneous” would probably cease to exist. Providing only some customers with the extra therefore means that some other customers would not get it. Given this, the implications for boosting satisfaction are less straightforward. The reason is that our results show that those who do not receive the extra will react with lower satisfaction. Thus, it must be underscored that in a social setting, in which several customers are present, each over-reward for someone is producing an under-reward for someone else.

Another issue that needs to be raised pertains to our findings regarding

perceived justice: we found that perceived justice was significantly higher in the situation in which no customer received any extra. In choosing between maximizing perceived justice or customer satisfaction, it is likely that many firms would feel that high satisfaction is the most desirable outcome, because of the many fruitful effects of satisfaction. Yet the future implications of producing low levels of perceived justice, such as when delivering something extra to some customers, have yet to be examined. Is it likely, for example, that a satisfied customer will be eager to repeatedly return to the satisfaction-creating firm if there is also a perception that the offer is unjust? That is to say, when perceptions of injustice accumulate over several service encounters, would the satisfaction level still be a good predictor of the customer's future behavior? This is a question calling for researchers' attention.

In addition, there may be societal consequences of just treatment of customers. Given that perceived justice is positively associated with trust, it is likely that just service encounters contribute to increasing trust for other persons (sometimes referred to as social capital). Empirical evidence for this exists, because Kumlin and Rothstein (2005) has shown that the more contacts the citizen has with societal service providers (e.g., the police) who are perceived to act in just ways, the higher the degree of general trust for other persons. Trust is indeed the foundation of an efficient marketplace; it reduces transaction costs, promotes reciprocity and cooperation, facilitates the diffusion of innovations, and enhances economic growth (Fukuyama 2001, Whiteley 2000). Yet it is also a prerequisite for a well-functioning society, because it is a necessary condition for democratic stability (Fukuyama 2001), it reduces the costs of fraud and crime (Whiteley 2000), and it positively affects tolerance for minorities, participation in public life, and perceived quality of life (Rothstein 2010). It is therefore assumed that recurrent service worker behavior producing just treatment of customers can set in motion a process – in which trust serves as a mediating variable – with a potential to affect several significant societal variables in a positive way.

However, there is an increasing emphasis in many firms on providing only some customers with the extra. Several firms also use increasingly sophisticated segmentation models, allowing for the identification of differences between customers – and allowing for subsequent differential treatment of customers. This is further fuelled by an increasing awareness in firms that all customers are not equally profitable, which is followed by attempts to treat the most profitable customers better (Mayser and von Wangenheim 2012). Yet in the light of our results, particularly with respect to perceived justice, and given the link between perceived justice and trust, boosting satisfaction for only some customers – by giving them something extra – may not be so wise from a societal point of view.

Some limitations in the present study are at hand. With respect to the extra in our experimental treatments, the extra was a bottle of champagne – an object that is more expensive than some other extras. And less expensive extras may obviously have less dramatic effects. Further research should therefore examine other forms of the extra. Another limitation of our treatments, following from equity theory, is that one other person (i.e.,

O) served as the comparison customer for the focal customer (i.e., P). In service encounters involving several customers, however, there may be several Os, and relatively little is known about who P is likely to select as the most relevant O. This is indeed an issue that further research must come to terms with. It should also be noted that we kept inputs constant in P's comparisons with O, yet the proliferation of loyalty programs means that P is often given the extra because his/her inputs are different from O, and such situations need to be examined. It is possible, for example, that a long-term customer, or a heavy user, is seen as more "entitled" to extras than other customers.

## REFERENCES

Adams, J.S., (1963), "Toward an understanding of inequity", *Journal of Abnormal Psychology*, 67 422-436

Ajzen, I., (1982), "Equity and attitude formation and change", In: Greenberg, J. and Cohen, R.L., (Eds.), *Equity and Justice in Social Behavior*, New York, Academic Press

Ben-Ze'ev, A., (2000), *The Subtlety of Emotions*, The MIT Press, Cambridge, Massachusetts

Beugré, C.D. and Baron, R.A., (2001), "Perceptions of systemic justice: The effects of distributive, procedural, and interactional justice", *Journal of Applied Social Psychology*, 31 (2) 324-339

Bitner, M.J., Booms, B.H. and Tetreault, M.S., (1990), "The Service Encounter: Diagnosing Favorable and Unfavorable Incidents", *Journal of Marketing*, 54 (January) 71-84

Carr, C.L., (2007), "The FAIRSERV model: Consumer reactions to services based on a multidimensional evaluation of service fairness", *Decision Sciences*, 38 (1) 107-130

Fornell, C., (1992), "A National Satisfaction Barometer: The Swedish Experience", *Journal of Marketing*, 56 (January) 6-21

Fukuyama, F., (2001), "Social capital, civil society and development", *Third World Quarterly*, 22 (1) 7-20

Gelbrich, K. and Roschk, H., (2011), "A meta-analysis of organizational complaint handling and customer responses", *Journal of Service Research*, 14 (1) 24-43

Gwinner, K.P., Gremler, D.D and Bitner, M.J., (1998), "Relational benefits in Services industries: The customer's perspective", *Journal of The Academy of Marketing Science*, 26 (2) 101-114

Konow, J., (2003), "Which is the fairest one of all? A positive analysis of justice theories", *Journal of Economic Literature*, XLI (December) 1188-1239

Kumlin, S. and Rothstein, B., (2005), "Making and breaking social capital: The impact of welfare-state institutions", *Comparative Political Studies*, 38 (4) 339-365

Maxham, J.G. and Netemeyer, R.G., (2002), "Modeling customer perceptions of complaint handling over time: The effects of perceived justice on satisfaction and intent", *Journal of Retailing*, 78 239-252

Mayser, S. And von Wangenheim, F., (2012), "Perceived fairness of differential customer treatment: Consumers' understanding of distributive justice really matters", *Journal of Service Research*, 16 (1) 99-113

Mussweiler, T., (2003), "Comparison Processes in Social Judgment: Mechanisms and Consequences", *Psychological Review*, 110 (3) 472-489

O'Malley, M.N. and Becker, L.A., (1984), "Removing the egocentric bias: The relevance of distress cues to evaluations of fairness", *Personality and Social Psychology Bulletin*, 10 (2) 235-242

Rothstein, B., (2010), "Happiness and the welfare state", *Social Research*, 77 (2) 1-28

Söderlund, M. and Gabrielson, P., (2011), "The 'Give-the-Service-Customer-Special-Treatment-Approach': What Happens when Other Customers are Present in the Service Encounter?", *European Advances in Consumer Research*, 9 380-384

Whiteley, P.F., (2000), "Economic growth and social capital", *Political Studies*, 48 443-466

Wicker, A.W. and Bushweiler, G., (1970), "Perceived fairness and pleasantness of social exchange situations: Two factorial studies of inequity", *Journal of Personality and Social Psychology*, 15 (1) 63-75

## HELP YOURSELF, BUT SHARE WITH OTHERS: HOW OPERATING A B2B CUSTOMER SUPPORT COMMUNITY CAN BUILD FIRM LEVEL LOYALTY

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### EXTENDED ABSTRACT

Managerial interest in organizing and facilitating online social communities is thriving, triggered in part by the possibility to invest in customer relationships and to obtain cost advantages (Algesheimer et al. 2005). Managers seek to understand the value of their online communities to the individual customer user and the collective customer firm. In this light, recent research has begun to investigate drivers (e.g., trust) and outcomes (e.g., new product adoption) of consumers' online community usage (e.g., Porter and Donthu 2008; Thompson and Sinha 2008). Such studies have predominantly investigated brand communities in a business-to-consumer (B2C) setting with the individual consumer as the unit of analysis (e.g., McAAlexander et al. 2002).

In this paper, we investigate the impact of customer usage of a supplier firm's online support community on firm level loyalty within a business-to-business (B2B) context. These B2B networks often have multiple layers within one organization, as the individual who uses the support community is often distinct from the individual(s) responsible for purchase decisions. Thus, for support community usage in a B2B setting to have an effect on loyalty, the benefits (e.g., increased knowledge, efficient problem solving) must transfer from the individual user to the decisionmaker within the customer organization. Consequently our central research question is as follows: *Do the benefits of community engagement reside within individual employees or transfer across the company?*

We also aim to address how the relationship between business customers' community usage and loyalty depends upon (1) the supplier's moderation activities in the support community (e.g., awarding of points to insightful customer posts, responding to customer queries) and (2) customers' activities in the support community (e.g., active contribution vs. passive consumption). Additionally, we aim to compare the effectiveness of various means of obtaining help (e.g., through community vs. through service requests).

To examine these issues, we use the overall customer organization as the unit of analysis and relate individual contributors' community usage to loyalty outcomes of employees operating at various corporate levels within the organizational hierarchy of the customer organization. Data were collected in partnership with a large Fortune 100 supplier of hi-tech

services and merged from multiple sources over a longitudinal period of time. This data includes surveys and behavioral data from both the individual users of the online support community and individuals working at various corporate levels within the customer organization, including key decision makers.

Our preliminary results provide new insights regarding the value of community engagement to the overall health of a B2B relationship. We seek to show through which mechanisms (for employees working at various corporate levels) operating an online community translates into broader results for the supporting firm, including satisfying and lasting relationships. Furthermore, by investigating the moderating effect of the supplier's interactive actions in the support community, we begin to identify best practices on how support community owners (e.g., the Fortune 100 company) should respond to users / community participants to drive favorable outcomes.

## REFERENCES

- Algesheimer, R., Dholakia, U. M. and Hermann, A. (2005), "The social influence of brand community: evidence from European car clubs", *Journal of Marketing*, 69 (3) 19-34
- McAlexander, J., Schouten, W. and Koenig, H. F. (2002), "Building brand community", *Journal of Marketing*, 66 (1) 38-54
- Porter, C. E. and Donthu, N. (2008), "Cultivating trust and harvesting value in virtual communities", *Management Science*, 54 (1) 113-128
- Thompson, S. A. and Sinha, R. K. (2008), "Brand communities and new product adoption: the influence and limits of oppositional loyalty", *Journal of Marketing*, 72 (6) 65-80

# **HOLLOW CORES AND EMPTY WALLETS: CAN CUSTOMER COMMUNITIES IN ONLINE SERVICES FILL BOTH?**

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## **ABSTRACT**

This paper examines satisfaction and loyalty in the context of an online casual games service. Building on the customer experience literature, it investigates how service quality and community contribute to an experience that is profitable as well as memorable. The absence of service quality is regarded as creating an experience with a hollow core, while a lack of loyalty, in terms of a willingness to pay for service, leaves a service provider with an empty wallet. The paper finds that service quality contributes to satisfaction and intention to recommend the service, whereas community contributes most to the intention to purchase.

## **INTRODUCTION**

In troubled economic times, service providers must work harder to capture and retain the attention and loyalty of their customers. This is even more pertinent in the face of the global competition that the Internet affords. Service providers struggling to differentiate their offerings in crowded marketplaces often turn to price reductions. Pricing affects customers' rational decision making, but many purchases are made on the basis of spontaneous decisions, in search of fun or emotional engagement (Hirschmann and Holbrook, 1982). Indeed, Pine and Gilmore's (1998) notion of the experience economy compels companies to avoid commoditisation by relying on low prices and instead create something akin to a theatrical performance that engages customers deeply on an emotional or psychological level. If successful, the service provider can "charge admission" for an offering that is engaging and memorable. Planning a service as theatre (Grove et al., 1992) means engaging and planning all of the front and back stage operations to deliver a consistent experience (Zomerdijk and Voss, 2010). Yet many service providers attempt to deliver entertainment and fail to sufficiently absorb or immerse their customers. This often happens when the core offering that represents the stage, fails to deliver to expectations (Gupta and Vajic, 2000). The result is an experience with a hollow core (Beltagui et al., 2012) and one that is ultimately unlikely to inspire loyalty.

In this paper, we examine a case study of an online casual games service. This is an experiential offering in which the stage is set by the functional aspects created by the service provider, while the experience itself is created through the interactions between customers, who play games, send messages and gifts and participate in tournaments online. The loyalty of these customers is represented by the length and frequency of their participation, with many logging in daily for over ten years. Despite a stable community size, the service was suffering a gradual reduction in paying members. This study was part of an investigation into how to reverse this

trend by understanding and enhancing the service experience. The paper therefore examines the question of how online communities can help to make experiences memorable and profitable.

## BACKGROUND

In the modern Internet-enabled environment, new forms of business to customer and customer to customer interactions have become a central part of many service offerings. Participation in online services sees customers taking a number of roles: as consumers, as co-creators of information and potentially as voluntary employees (Hibbert et al., 2012). The customer experience is therefore influenced both by the design decisions made by the service provider and customer inputs (Zomerdijsk and Voss, 2010). Customers often form brand communities that may be geographically dispersed but share a sense of belonging based on their consumption of products or services (Muniz and O'Guinn, 2001). The Internet provides an effective means for these communities to communicate and interact, forming online communities, which service providers can seek to participate in or benefit from (Nambisan and Baron, 2009). Historically, studies of service quality have tended to focus on satisfaction with the offerings made by the service provider, including its facilities and its employees (e.g., Parasuraman et al., 1988). Yet as attention turns to customer experience quality (Lemke et al., 2011) interactions with fellow customers and online communities emerge as an important omission. Unlike other factors, communities are, to a large extent, outside of the control of the service provider. This makes understanding and influencing customer communities a vital concern for managers.

Muniz and O'Guinn (2001) identified three distinct characteristics that community members display. These are a consciousness of kind, shared traditions and values, and a moral responsibility. Community members feel part of a collective and take responsibilities such as moderating the behavior of others and seeking to prevent members from leaving, in order to maintain the health of the collective. Customer communities therefore play an important part in maintaining loyalty (Bagozzi and Dholakia, 2006), by seeking to maintain and expand the collective community and avoid the departure of its members. This loyalty, however, may be directed either towards a service provider or towards the community itself. For example Nambisan and Baron (2010) identified that people may voluntarily contribute to online forums either through a connection with a company or because they feel themselves to be part of a community. Whether they feel a connection with a service provider or the customer community, customers may exhibit loyalty to an online service. For online services based on some variant of a "freemium" business model (Osterwalder and Pigneur, 2010), however, it is important to distinguish between loyalty in the form of patronage, on one hand, and purchase, on the other. And other studies (e.g. Chitturi et al., 2008) have demonstrated that customers' emotional experience can result in either satisfaction or loyalty. By measuring repatronage and repurchase intention, Jones et al. (2006) demonstrated that loyalty can mean customers intend to visit a service provider again, but may not have the intention to spend money.

Service quality (Harvey, 1998) is traditionally viewed in two connected parts: those dimensions related to the results customers expect and those related to the process by which the results are achieved. Neither of these aspects can be assessed in absolute terms since the level of quality is largely dependent upon an individual customer's expectations or desires. These are expressed in Grönroos' (1984) service quality model as technical quality (what a service does) and functional quality (how it is delivered). It has been argued (Maddern et al., 2007) that researchers focus unduly on the service delivery process, emphasising functional quality but overlooking technical quality. This implies failing to understand customers' expectations and how well they are achieved. In this study, we measure both technical and functional quality, in addition to community membership. We seek to explain the loyalty behavior of customers by examining the influence of these three constructs in the context of the online games community.

## CASE STUDY

The rationalization that has characterized technological and social development over the past century has led to a number of unexpected trends (Mitchell, 1988). One of these is the blurring of the previous distinctions between work and leisure (Babin et al., 1994). In general, people seek to balance their abilities and the challenges of their work, but often maintain this balance through their leisure pursuits (Allison and Duncan, 1988). This has partly contributed to the increasing popularity of casual games that are offered online and attract an older audience than video games have done in the past. Playing games online helps people to relax (De Schutter, 2011) or may give them challenges to compensate for disenchantment in their working lives (Mitchell, 1988). Casual games users form communities through which a collective experience is co-created. To investigate the drivers of satisfaction and loyalty, we examine one such community. The service consists of a collection of virtual game rooms with tables hosting card, board and dice games such as Backgammon and Ludo. It was launched by the developer in the early 2000s, for a client seeking to grow their brand by creating an online interactive presence. Responsibilities for managing the community, including responding to support requests and complaints or identifying features to be developed were initially taken by the client. In addition, prizes, typically carrying the client's logo, were awarded, helping to connect the games service to the client's brand. Over time, responsibilities were left to the provider, who was eventually left with sole responsibility for providing all services.

## METHOD

Data were collected over a two year period, using quantitative and qualitative surveys, interviews, observation and content analysis of online communication. The analysis presented in this paper makes use of the annual surveys conducted in 2010, 2011 and 2012. The survey in 2010 was used to develop measures with which to assess the experience. Results and description of the process are reported elsewhere (Beltagui et al., 2011). The second survey in 2011 made use of the developed scale, with the addition of items to measure technical quality and community, which

were identified as relevant based on the first year's results. A total of 1999 responses were used for this analysis. The third survey was supplemented by another, approximately six months earlier that focused more specifically on willingness to pay for proposed new features. Where user names were provided by survey respondents, these allowed an individual's response to both of these 2012 surveys to be linked. This gave a usable sample of 188 responses.

Data analysis consisted of two phases. In the first, qualitative data from open ended survey items were analysed using a thematic coding approach (Miles and Huberman, 1994). Each response was coded according to the main theme of the criticism or suggestion given by the respondents. Themes included broad categories related to the product, the service provider (developers and brand partners) and community (fellow players and supervisors). An in depth interpretive analysis allowed the relationships between distinct actors to be explored as well as identifying constructs to be measured in subsequent iterations of the survey. Due to limitations of space, a very brief account of this analysis is presented here. The second phase involved quantitative analysis of constructs measured using survey items on 5 point likert scales (Beltagui et al., 2011). Data analysis using the method of partial least squares (Ringle et al., 2005) was used to examine the relationships between service quality and community and output measures of satisfaction and loyalty. The method of partial least squares has received growing attention in management literature and is recommended for the study of complex models including multiple item variables, particularly where sample sizes are very small or very large (Hair et al., 2011).

## PHASE ONE - QUALITATIVE STUDY

As part of the annual surveys, respondents provided suggestions on improvements in response to an open ended question, requesting any specific improvements that could improve their experience. While many offered praise, or simply stated their satisfaction, the majority of the responses were complaints, revealing the sources of dissatisfaction. Of a total of 302 comments provided in the 2010 user survey, only around one third (37.1%) concerned the community and behavior of fellow users. The others were concerned with usability or perceived unreliability of the platform or the servers hosting it. The most revealing, however, were those demonstrating a general dissatisfaction resulting from change. In particular an in-vivo code (Glaser and Strauss, 1967) was labelled "good old days" due to users' reminiscing about how things were, before an update or change was perceived to make the system less reliable.

The presence of human administrators within the user community also serves to paint the rather more anonymous service provider in a negative light. As one respondent commented, "the admins work hard, unpaid. Can you say the same for employees?" These administrators moderate the behavior of other community members, but also create events and tournaments that add value to the experience. A clear distinction is found, therefore, between how the service provider and the community are perceived by users. The recurring theme is one of the community, including

administrators, adding value, while the unseen service provider and its employees may be seen as responsible when the service fails to perform as expected. This summary is a somewhat simplistic representation of a broad range of opinions. However, it highlights the key concern from a managerial perspective, that dissatisfaction harms customers' willingness to pay, despite the loyalty shown by their ongoing participation in the community.

## PHASE TWO – QUANTITATIVE ANALYSIS

Following the first phase of this research, the key questions under investigation relate to the relative influences of service quality and community on satisfaction and loyalty. The absence of service quality is regarded as creating an experience with a hollow core, while a lack of loyalty, in terms of a willingness to pay for service, leaves a service provider with an empty wallet. Three independent variables were identified namely technical quality, functional quality and community. For technical quality, three items were taken from Éthier et al.'s (2006) study of emotional reactions to services. These give a measure of the degree to which the expected outcome of the service was achieved. For functional quality, three items based on Candi's (2010) study of service design were used to assess functionality and ease of use. And for community, six items representing Muniz and O'Guinn's (2001) dimensions of brand communities were developed.

Table 1 – The relationships between Service Quality and Community Membership on Satisfaction and Loyalty (N = 1999)

No. of Items (alpha)	Independent Variable	Satisfaction	Intention to Recommend	Intention to Repurchase
3 (0.814)	Functional Quality	0.352 **	0.231 **	0.042
3 (0.886)	Technical Quality	0.469 **	0.412 **	0.195 **
6 (0.875)	Community	0.097 **	0.268 **	0.277 **
R <sup>2</sup>		0.627	0.556	0.185

\*\*p<0.05

Two separate analyses were conducted. The first, shown in Table 1, used the dependent variables of satisfaction, willingness to recommend and willingness to (re) purchase. These were single item variables based on Jones et al.'s (2006) study of satisfaction and loyalty. Cronbach's alphas for the three independent variables demonstrate reliability of the measures. The results show statistically significant relationships between the independent and dependent variables with the exception of the relationship between functional quality and repurchase intention. As the results are standardised, comparisons can be made between the sizes

of the influence of the variables on the output. The results suggest that satisfaction has a stronger relationship with service quality (both functional and technical) than to community. All three have a positive and statistically significant relationship with satisfaction. Together the independent variables have strong explanatory power based on the R2 value of 0.627. For intention to recommend, the pattern is similar, but a lower R2 (0.556) suggests less explanatory power. And while the relationship with technical quality remains the strongest, community exerts greater and functional quality lesser influence than is the case for satisfaction. For repurchase intention, meanwhile, the community becomes the most important of the three independent variables. Yet the considerably lower R2 indicates that repurchase intention is much less predictable using these variables.

The second part of the analysis was intended to further explore willingness to pay. Specifically, two survey items asked respondents whether they would be more likely to pay for membership if more substantial prizes were on offer or for the possibility of cash prizes in tournaments. These two options were based on managerial strategy, with the service provider actively exploring the legal and technical feasibility of these options. Prior to analysing the results, a t-test was performed, comparing the willingness to pay responses for customers who had previously paid for access, with those who had not. The small difference in mean values between the two groups was not statistically significant. The results of analysis shown in Table 2 confirm the previous results, namely that community has a stronger relationship than service quality dimensions to willingness to pay. The small R2 in comparison to the previous results, reflects the smaller sample size, but also suggests that community alone is not a sufficient predictor of customer loyalty.

Table 2 – The relationships between Service Quality and Community Membership on Willingness to pay for added features (N = 188)

Items (alpha)	Independent Variable	Willingness to Pay for new features (2 items)
3 (0.870)	Functional Quality	-0.035
3 (0.882)	Technical Quality	-0.024
6 (0.888)	Community	0.200 **
R <sup>2</sup>		0.034

\*\*p<0.05

## DISCUSSION

This study examines the drivers of satisfaction and loyalty in the context of an online casual games service. Specifically, it examines the influence of functional and technical quality along with community. The findings suggest that satisfaction is likely to be influenced directly by the service provider, whether positively or negatively. Meanwhile loyalty is more influenced by connection to the community. This is noticeable when measuring intention

to recommend and even more so when we examine the intention to pay for access to an online service. The findings offer valuable implications within the substantive area, namely online casual games and social networks, as well as more broad managerial and theoretical implications.

The key challenges for any service operating on a freemium model are to increase the size of the community and to ensure sufficient revenue from the paying customers. This makes it essential that existing customers promote the service through word of mouth (or its online equivalent) and that sufficient numbers of customers upgrade from free to paid participation. Our studies suggest that service quality contributes to satisfaction and to the intention to recommend, but a much weaker relationship with purchasing intention. Indeed, we find no evidence that functional quality affects intention to purchase in this context. Based on our findings, we suggest that the strength of a customer's connection to the community contributes more to their loyalty than does the quality of the service. Yet this represents a part of the overall experience and further investigation is required to fully understand the other dimensions that contribute to the experience. The most important implication for practitioners is to recognise the importance of the customer experience and the part that community plays within this experience. For researchers, paper contributes to the growing literature on customer experience and highlights the need to understand how experiences can be both profitable and memorable.

## CONCLUSION

In some contexts, negative emotions as part of a service have been seen to create an overall positive experience (Celsi et al., 1993, Arnould and Price 1992). Our study reveals a community in which many of the members appear to be dissatisfied, as demonstrated by complaints and disparaging comments aimed at the service provider. Yet even when many have been complaining for around a decade, they appear to be simultaneously dissatisfied and extremely loyal. Findings suggest that customers distinguish between the actions of the user community and those of the service provider in their assessment of the experience. The quality of the service offered affects satisfaction and the likelihood that customers will promote the service within their social networks. Meanwhile, the feeling of belonging to a community of fellow customers contributes more to the willingness to pay for access to the service.

## REFERENCES

Arnould, E. and Price, L. L., (1993), "River magic: Extraordinary experience and the extended service encounter", *Journal of Consumer Research*, 20(2) 24–45.

Bagozzi, R. P. and Dholakia, U. M., (2006), "Antecedents and purchase consequences of customer participation in small group brand communities", *International Journal of Research in Marketing*, 23 45-61.

Beltagui, A, Candi, M & Riedel, J. C. K. H., (2011), Developing a scale to measure customer experience, at 18th International Product Development

Management Conference (IPDMC 2011), Delft, Netherlands, June 5-7.

Beltagui, A., Candi, M. and Riedel, J. C. K. H., (2012), "Design in the experience economy: using emotional design for service innovation", in Swan, S. and Zou, S. (eds) *Interdisciplinary approaches to product design, innovation and branding*, pp.111-135, Bingley, UK: Emerald.

Celsi, R. L., Rose, R. L. and Leigh, T. W., (1993), "An exploration of high-risk leisure consumption through skydiving", *Journal of Consumer Research*, 20 (1) 1–23.

Chitturi, R., Raghunathan, R. and Mahajan, V., (2008) "Delight by design: The role of hedonic versus utilitarian benefits", *Journal of Marketing*, 72(3) 48–63.

De Schutter, B., (2011), "Never too old to play: the appeal of digital games to an older audience", *Games and Culture*, 6(2) 155-170.

Éthier, J., Hadaya, P., Talbot, J., Cadieux, J., (2006), "B2C web site quality and emotions during online shopping episodes: An empirical study" *Information and Management*, 43 627-639.

Glaser, B. G. and Strauss, A. L., (1967), *The discovery of grounded theory: strategies for qualitative research*, New York, NY: Aldine De Gruyter.

Grove, S. J., Fisk, R. P. and Bitner, M. J., (1992), "Dramatizing the service experience: a managerial approach" IN: Swartz, T A, Bowen, D E & Brown, S W (eds) *Advances in services marketing and management: a research agenda*, Volume 1, pp. 99-121, London: JAI Press.

Grönroos, C (1984) "A service quality model and its marketing implications", *European Journal of Marketing*, 18(4) 36-44.

Gupta, S. and Vajic, M., (2000), "The contextual and dialectical nature of experiences" IN: Fitzsimmons, J.A. and Fitzsimmons, M J (eds) *New service development: creating memorable experiences*, pp. 33-51 Thousand Oaks, CA: Sage.

Hair, J. F., Ringle, C. M. and Sarstedt, M. (2011), "PLS-SEM: Indeed a Silver Bullet" *Journal of Marketing Theory and Practice*, 19(2) 139-151.

Harvey, J., (1998), "Service quality: a tutorial" *Journal of Operations Management*, 16 583-597.

Hirschman, E. C. and Holbrook, M. B., (1982), "Hedonic consumption: emerging concepts, methods and propositions" *Journal of Marketing*, 46(3) 92-101.

Jones, M. A., Reynolds, K. E. and Arnold, M. J., (2006), "Hedonic and utilitarian shopping value: Investigating differential effects on retail outcomes", *Journal of Business Research*, 59(9) 974–81.

Lemke, F., Clark, M. and Wilson, H., (2011), "Customer experience quality: an exploration in business and consumer contexts using repertory grid technique" *Journal of the Academy of Marketing Science*, 39 (6) 846-869.

Maddern, H., Maull, R. and Smart, A., (2007), "Customer satisfaction and service quality in UK financial services" *International Journal of Operations and Production Management*, 27(9) 998-1019.

Miles, M. B. and Huberman, A. M., (1994), *Qualitative data analysis, an expanded sourcebook*, 2nd ed, Thousand Oaks, CA: Sage.

Mitchell, R., (1988), "Sociological implications of the flow experience", IN Csikszentmihalyi, M. and Csikszentmihalyi, I. S. (eds), *Optimal experience: psychological studies of flow in consciousness*, pp. 36-59, New York, NY: Cambridge University Press.

Muniz, A. M. and O'Guinn, T. C., (2001), "Brand Community" *Journal of Consumer Research*, 27 (3) 412-432.

Nambisan, S. and Baron, R. A., (2009), "Virtual customer environments: testing a model of voluntary participation in value co-creation activities" *Journal of Product Innovation Management*, 26 (4) 388-406.

Nambisan, S. and Baron, R. A., (2010), "Different roles, different strokes: organizing virtual customer environments to promote two types of customer contributions" *Organization Science*, 21(2) 554-572.

Osterwalder, A. and Pigneur, Y., (2010), *Business Model Generation*, Hoboken: NJ, Wiley.

Parasuraman, A., Zeithaml, V. A. and Berry, L. L., (1988), "SERVQUAL: a multiple-item scale for measuring consumer perception". *Journal of Retailing*, 64(1) 12-40.

Pine, BJ & Gilmore, J. H., (1998), "Welcome to the Experience Economy" *Harvard Business Review*, 86(4) 97-105.

Ringle, C.M., Wende, S., Will, A., (2005), *SmartPLS*. Hamburg, Germany. <http://www.smartpls.de>.

Voss, C., Roth, A. V. and Chase, R. B., (2008) "Experience, service operations strategy, and services as destinations: foundations and exploratory investigation" *Production and Operations Management*, 17(3) 247-266.

Zomerdijk, L. G. and Voss, C. A., (2010), "Service design for experience-centric services" *Journal of Service Research*, 13 (1) 67-82.

# **HOSPITALITY & CULTURAL INTELLIGENCE: CHALLENGES AND OPPORTUNITIES**

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## **ABSTRACT**

This paper aims at focusing on the role of human resources to deploy the concept of Cultural Intelligence as a critical individual capability affecting service encounters for leveraging differences in bridging cultural disparities in organizations while examining and expanding on the principle concepts and theories of managing cultural diversity, differences, intercultural competencies and sensitivity with their practical application to management within hospitality, leisure and tourism businesses at a local, national and international level.

## **WHAT IS CULTURAL INTELLIGENCE?**

In recognition of cross cultural work management being seen as an advantage, the need to deal effectively with people from diverse cultural backgrounds has become cardinal for ensuring success. Although globalization has made the world seem smaller and 'flat' in many ways, cultural differences and cultural diversity remains a challenge to be faced by individuals and organizations in today's context.

Culture and cultural differences have a greater influence on business effectiveness than we think and it is therefore important for hotels to develop the cultural intelligence of their associates. As organizations become more global, mergers and strategic alliances become more common, developing the skills to get the best from different cultures becomes a necessity rather than an option – and we are not only thinking about the national differences between people.

It is often easy to see when someone makes a cultural blunder. In an instance with my experiences with one of our summer Internship Batch at Maldives we had interns coming in from all parts of the world – Paris, Japan, US, China and India - during one of the meeting with interns at our "Indian" hotel based in Maldives, an individual from the United States was eating chips and drinking a large bottle of coke while loudly discussing why he believed it was unfair that he could not use the hotel facility in the hotel based in Maldives and also on "how local people behave". He could not seem to understand why the management and locals were so offended by his actions, and during the meeting he did not recognize how his current behaviors of eating, drinking, and conversing loudly (body language and tone) with the team and the general management were making those from other countries/cultures uncomfortable. Throughout the interaction, he failed to interpret the cultural cues others from around the world were displaying; later, he stated how surprised he was at his difficulty adjusting to life in Maldives.

In the above case, the subject was about being unaware of the cultural cues being conveyed to him. The individual had problem adjusting to his new cultural setting; however, other individuals (interns) were able to make the adjustment. How is it that some individuals are more successful than others in a cross-cultural business situation? How can some people travel easily from country to country and effectively conduct business, while others may only be effective in a few countries or completely ineffective outside their home country?

The ability to interact effectively in multiple cultures has recently been labeled as cultural intelligence. It is defined as a “multifaceted competency consisting of cultural knowledge, the practice of mindfulness, and the repertoire of behavioral skills”. Cultural Intelligence is a capability that allows individuals to understand and act appropriately across a wide range of cultures. It is thought to be a “culture-free construct that applies across specific cultural circumstances”. It is a person’s capability to adjust to diverse cultural situations and effectively adapt to various cultural settings and in order to be culturally intelligent, an individual needs to know how to suspend judgment of a situation until multiple cues can be assessed, as well as integrate and understand the knowledge gained from the situation.

## MANAGING A MULTICULTURAL WORKFORCE

The basic concept of managing diversity accepts that the workforce consists of a diverse population of people. The diversity consists of visible and non-visible differences which will include sex, age, back-ground, race, disability, personality and work style. It is founded on the premise that harnessing these differences will create a productive environment in which everybody feels valued, where their talents are being fully utilized and in which organizational goals are met.

Cultural Intelligence is relevant for global leaders, expatriates, professionals dealing with global contacts, members of multi cultural teams, travelers or any other person dealing across national and/or cultural backgrounds. If Cultural Intelligence is woven in the fabric of the organizations, it shall enable the managers to effectively handle cultural variations and differences. When the managers develop the capability of acknowledging these differences, they shall become capable of lowering the cultural barriers that may be created and predict what the customers are thinking and how they shall react to their behavioral patterns. Also, employees learn from such multicultural experiences, the art of harnessing the power of cultural diversity. Thus, Cultural Intelligence is the ability to understand the alliance between cultural issues.

## CHALLENGES

Culture impacts on every stage of the HR cycle, from selection and recruitment, to feedback, evaluation, coaching, and exit interviews. This presents the additional challenge of communicating the value of the different functions, as well as performing them. Cultural Intelligence is one of the key managerial competencies needed for dealing effectively with people from different cultural backgrounds across sectors and industries

including hospitality.

Managers in multinational companies experience complex cultural challenges which include complexities of the global environment such as:

- working with people from multiple countries and cultures simultaneously
- people don't always behave consistently with their culture in terms of personality and situations
- not everyone in the culture is the same
- communicating effectively, working together, and building trust are extremely difficult
- unaware of biases of our own culture
- threatened or uneasy when interacting with people who are culturally different
- unable to understand or explain behavior of culturally different others
- unable to transfer knowledge about one culture to other cultural situations
- not recognizing when our own cultural orientation is influencing our behavior
- unable to adjust to living and working in another culture

## OVERCOMING CULTURAL DIFFERENCES – INDIVIDUAL ROLE AS A MANAGER

Managers recognize cultural differences when they realize that people from different cultures behave differently and that those differences affect the way in which their organizations function and impact the customer experiences and customer satisfaction. This challenge of handling and managing multiculturalism is experienced invariably in all sectors of service industry including hospitality. Hotels and other sectors of hospitality have to duly engage in effective management of cultural disparities deeply rooted in the multicultural contexts to the advantage of the organizations at the individual, group and systems level.

The key strategy for working in a culturally diverse organization is to be aware that cultural differences exist. It is impossible to know cultural norms from every different culture represented in a company, but to be aware of the existence of those norms is essential. The inability to read these signals can lead to employee dissatisfaction, increased turnover and decreased productivity. If properly managed, culturally diverse workplaces can be more dynamic, more creative and more productive than a homogeneous

one, but without cultural awareness, those results will never be attained.

Managers in multinational companies need high levels of cultural intelligence and cultural intelligence is the ability to understand and manage the relationship between business issues and cultural issues. More specifically:

- separate business imperatives and strategies from cultural assumptions about what to do and how (analysis)
- implement business imperatives and strategies taking cultural assumptions into account (action)
- maintain personal integrity (be yourself!) while respecting other cultures and allowing others to be themselves.

## TRAINING

Organizations do not prepare individuals enough for international assignments yet; training has been identified as one of the key activities that contribute to expatriate return on investment. Therefore, it is important for organizations to determine how to appropriately train individuals for international assignments. Since education abroad seems to impact Cultural Intelligence at various levels, it is possible that firms should consider training individuals in the foreign countries as opposed to their home country. This approach may be useful not only for those who are expatriates, but also for those who interact with individuals from other countries as part of their work.

Additionally, it is possible that individuals who have had multiple vacation experiences abroad, and who are therefore probably high in motivational Cultural Intelligence, would like to receive additional training on interacting effectively in other cultures. Organizations could target training programs to them, and design the programs to enhance overall Cultural Intelligence by using their vacationing experiences abroad as the foundation to build on their cultural knowledge. It may be necessary to tailor training programs on Cultural Intelligence to fit the differing levels of cultural understanding that employees have.

## EDUCATION AND INTERNSHIPS

Studying abroad seems to have an impact on total Cultural Intelligence, as well as most of the underlying components of Cultural Intelligence and while study abroad is on the rise – the organizations / hotel management may want to consider giving additional support for study abroad programs at hotel management institutes or universities, in order to encourage more students to take advantage of these opportunities.

At Vivanta by Taj – Coral Reef, Maldives we partner with universities in the form of providing operational internships at the hotel both at the undergraduate or graduate level. The internship program is a great way of screening and training potential employees where the hotel offer an

exciting Internship Program, providing post graduate students hands on work experience in the hospitality industry. This competitive program brings together a diverse group of students from across the globe. As part of the program, students benefit from exposure to senior level management, challenging projects, networking sessions with interns from across the globe, learning and development opportunities and much more. It offers participants an opportunity to obtain valuable work experience with the most prestigious and the largest Hotel, Leisure and Hospitality Company in South Asia.

This program structures a fieldwork experience where participants will take part in and reflect on the Internship Program experience, as well as all prior/subsequent work experience, by incorporating the learning experiences as well as utilizing the transferable skills. While it is a non-technical skill internship, it is defined as supervised employment extending classroom based occupational learning at on-the-job learning stations that may or may not relate to the participants' educational or occupational goal.

Some hotel chains already use such globally-focused programs, but more organizations need to initiate them so a greater cultural understanding can be developed in the workplace. Also providing scholarships may provide an opportunity for young professionals who would not normally be in a financial position to consider studying abroad to take advantage of the programs at their universities, thereby increasing the pool of future employees who are high in Cultural Intelligence.

By creating a larger pool of candidates who already have high levels of Cultural Intelligence, global hotel companies can build the skills of their future workforce and increase the likelihood that these globally-minded individuals will seek employment at their chains.

## EXPATRIATION

Selecting individuals for expatriate assignments is often a difficult task; yet, it is thought to be a key aspect of the return on investment in an international assignment. Organizations should consider examining employees' Cultural Intelligence level prior to sending them abroad, which should help to minimize some of the common cultural issues that often occur during these assignments. Understanding what can increase Cultural Intelligence will aid organizations during this process, and allow organizations to develop more successful expatriates.

Multinational organizations should consider hiring individuals with previous international exposure, specifically individuals who have worked or studied abroad. Firms should examine the number of experiences individuals have had abroad as a proxy for the depth of their exposure, which may be particularly useful when considering multiple candidates for a position. It may also be important for managers to look at individuals who have had several vacationing experiences abroad, because their desire to learn about other cultures is high. These individuals could also be successful expatriates if they are properly trained regarding how the work experience abroad will differ from vacation experiences abroad.

## APPROACHES TO CULTURAL AWARENESS – TIPS FOR MANAGEMENT

- examine work-related and organizational and individual behaviors that may be influenced by culture – discrimination, stereotyping and perception in the context of conflict and negotiation. Communication is central to culture.
- understand different models purporting to explain cultural differences in diverse societies as well as own communities. Apply such models to workplace level - investigate organizational goals, policies, cultures and climates in managing diversity.
- awareness of the significance of communication - examine ways in which intercultural communication can be enhanced – inclusive language.
- training and ethics – appreciate the importance of cross-cultural training in enhancing managers' competencies, and evaluate the value of such training in reality; Describe links between culture, ethics and managerial competencies.
- evaluate the impact of intercultural competencies on successful cross-cultural management – case studies examined.

## CULTURAL INTELLIGENCE – ROLE OF MANAGEMENT AND EDUCATIONAL INSTITUTES

Although education for cultural awareness/diversity is supported in this thought process, it is respected that it is a difficult and complicated area to embed within the curriculum. However, in an increasingly multicultural working environment academics should realize and use education for cultural diversity as an opportunity to add value to the education process through the creation of more dynamic learning outcomes.

Education for cultural diversity means an education which aims to educate people equally and help people get along with each other peacefully. The need of the hour is to examine and expand on the principle concepts and theories of cultural diversity and their practical application to management. Issues include the management of cultural diversity, intercultural competencies, communication and application within hospitality, leisure and tourism businesses at a local, national and international level.

## GLOBAL LEADERSHIP

Global leadership skills have become increasingly important in the dynamic work environment, and it has been suggested that cultural intelligence can even lead to developing global leadership success. As firms prepare employees to assume global leadership positions, they should not only train them, but also send them on foreign assignments to be exposed to other cultures. If an organization develops Cultural Intelligence skills during internships, training, and expatriation, then successful global

leaders should ultimately be developed. In global organizations high levels of Cultural Intelligence are likely to influence the success of global leadership, so firms should consider individuals who have had multiple global assignments and some education abroad. Even if a leader does not intend to leave his or her home country, selecting the appropriate person to interact with foreign subsidiaries should have a positive effect on the organization.

## WAY FORWARD

The cultural challenge faced by companies 20 years ago was often simply to prepare individuals to go abroad and work and negotiate effectively in a foreign national culture. But today's global and knowledge-intensive companies are faced with a much more challenging cultural complexity involving many key people both at home and in subsidiaries, outsourcing companies and subcontractors. Not only is the organization itself often home to and carrier of several professional, national and organizational cultures but the employers are at the same time also working with business partners from other organizations and countries.

The challenges and problems of culturally complex organizations cannot be solved using the thinking of past generations. We need to develop new mindsets and models. We need to see difference in a new way, where interdependence is a given, and where working with difference is a competitive advantage rather than an obstacle to be worked around.

# **HOSPITALITY OPERATIONS-EMERGING MARKET, OPPORTUNITIES, SUSTAINABILITY, EMPOWERMENT**

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## **ABSTRACT**

The Hospitality industry in Nigeria is teeming with opportunities untapped, that can create jobs and empower its citizens. There also exist investment opportunities and platforms for sustainable initiatives. This is considered among other things, qualitatively and quantitatively as an exploratory study, of a theme of insights- data collected from 124 caterers, 80 hospitality trained women, interview narratives. With the major aim of presenting initial descriptive findings, and financial limitations, about sustainable and empowerment opportunities that exist in the Nigerian hospitality foodservice sector, in hospitality in general, for citizens, the youth and women. Constraints and challenges in existence, and propose local initiatives.

## **INTRODUCTION**

The Nigeria Economy is facing problems which among other things has given rise to a high rate of unemployment, poverty and hunger, among a minority group (Akunnaya,2012) The present economy calls for a synergised effort to, create jobs, empower many citizens, especially women and the youth, and create means of earning and facilitate financial independence. The effort to achieve this can also contribute to developing and sustaining the industry. Hospitality operations offer opportunities minutely tapped. It is recognised globally that hospitality can play a huge role in the economy of a country (Flaxman, 2012). The industry also has lots of opportunities to tap into (Murray, H, 2010).

Thus, needless is it to say then that there is a need to persuade all stakeholders and governments of countries concerned such as Nigeria about the enormous benefits a successful hospitality industry can contribute to the economy of a country (Murry, H, 2010) Besides, other attractions to hospitality operations are the fact that it also has a lot to offer those looking towards it as a career or investment opportunity. It is often also a focal point for local society, and clearly at the centre of the transfer of ideas and cross fertilisation of cultures. The heart of hospitality is that it plays an important part in physically bringing people together in a global community. It is able to 'churn' out a variety of opportunities for those looking to hospitality business (Cline, R, 2012). Thus, the extent to which the hospitality industry is able to empower Nigerian youth and women will be considered. This will be considered qualitatively and quantitatively with a focus on the catering and hotel accommodation sector. To show the potentials of these sectors among others, still unrecognised that can contribute to man power development, and offer huge opportunities. Therefore the major aim of this study is to find out if there exist in hospitality service operations in an emerging market as Nigeria, opportunities of

sustainability and empowerment of youth and women? Constraints and challenges that confront it, local initiatives that can be proposed and identify potential huge impact it can have on the economy segments or factors. In addition, describe the teaming opportunities it has to offer for any emerging economy and for investors looking towards new emerging markets.

## LITERATURE REVIEW

First of all the venture in to this terrain of interest to explore to see and confirm, if hospitality service in an emerging market have any or specific opportunities of sustainability, and empowerment is majorly because literature and evidence daily exist around us, at home and abroad of how the hospitality industry, which also feeds off leisure and tourism, is impacting hugely, on close and distance economies. Thus, One cannot but begin to think of why the same cannot or may not already been in exist within the country of study. Added to this, as mentioned above is the knowledge that as observed that this industry also feeds off leisure, travel and tourism, also huge industries that deliver on economic growth, development, employment and wider objectives, that range from social and economic inclusion to attracting enterprise and investment(Rifai,T,2011). The question cannot but be asked, but why given the absolutely, more than clear insight, into the direct and indirect economic impact, these two industries can generate, Nigeria as a whole has not sufficiently prioritised these sectors. More so within its national, political and economic agenda (Rifai, T, 2011), not just as theory but in a synergised, thought through form.-such that government provides supportive policy frameworks, to drive this goal, as has been done in some countries like Brazil. The hospitality industry is also able to feed off the tourism industry also because when more people have disposable income to spend and more free time, the demand for holiday destinations increases. Changes in manufacturing and industry also create demand for the hospitality industry. An increase in the size of Corporations also means that the demand for accommodation and meeting rooms automatically increases (Foskette and Ceserani, 2012).There isn't a doubt with the industry linked to all this .It must have some level iota of opportunities that can be tapped to benefits all those it surely may impact upon in the process of growth and development. Thus, the yearning to study and explore to see, the teeming opportunities linked to this industry presently, which is sought to also promote the message that the development of these two closely linked industries will always mean ,economic growth, job creation and development(Rifai,T, 2011), in any of its dimensions.

Secondly, just as tourism is a complex and horizontal sector, touching on numerous other economic activities, policies on employment, planning, transport to say a few. The hospitality industry always creates also a multiplier effect as a result of any sector activities it undergoes, and this has been shown to play a huge role in emerging market economies as well, because it indirectly and directly create jobs as well, along with providing jobs and services for a long list of activities, suppliers, products or services. Thus, similar to tourism a complex and horizontal sector, touching on numerous other economic activities and policies( Rifai,T,2011). Not to

mention other local economic impact it has a capacity to influence for the better, via small and medium scale enterprises.

Indeed, hospitality is an intensely important component to any emerging market. Brazil's economy an evidence of this, were in the last five years 20 million people have been brought into the middle class. This has also impacted on the economy of Brazil and reduced poverty levels. The hospitality industry is thus critically important because it not only creates a demand; it is labour intensive, a virtuous cycle that provides employment at various levels (Flaxman, 2012).

Other areas of concern and possible initiatives related to sustainable development, empowerment and investment opportunities, are enormous that can be emphasised, that relate to the role hospitality can play and the importance of hospitality sustainable developmental opportunities because as sustainability issues are not and should not just be centred on green issues, recycling and taking care when building hotels or effort to reduce carbon levels. But, also consist of having a much more synergised and "helicopter approach", to sustainable issues, such that sustainable development include health, and disease prevention, healthy eating, local procurement, social programmes as well as the eco side of the industry. Then, the industry can play a huge role in terms of training and supporting local communities, through employment (Flaxman, 2012).A urgently needed and very important role backed up by collaborative efforts and initiatives. An economic empowerment initiative is one that will ever be useful and timely to benefit disadvantage groups. Such initiative if linked to hospitality and tourism operations, discussed previously as linked, can also assist in creating economic benefits for previously disadvantaged communities or individuals. This initiatives can also become avenue created for all citizens (Magi,2010), the youth and women to contribute their talents and energies to the process of developing their country. This is also because among many human economic activities, tourism, which hospitality feeds on, has come to be regarded as one of the leading revenue generators, as well as a good remedy for communities that have been affected by unemployment and poverty(Magi,2010).Thus, if such initiatives as this described is backed up with the appropriate policy framework, and the knowledge that as hospitality also feeds off tourism there is an inevitable certainty that the development of hospitality service operations, will translate into poverty alleviation, job creation, and reduction of unemployment, so as to constitute community development. This is in order to also help to achieve community (Magi, 2010), national and international empowerment and development in a country. All of these developmental goals and empowerment initiatives of communities, needless to say, have to be supported by policies and strategies, committed to implement, which seek to create true, opportunities of economic development, poverty alleviation and community participation, for the common good. This is to argue that when the right and true policy initiative are the foundation, not just the basis of any change or development prospects or initiatives, in the right direction, then we can be sure that "change can become a powerful and positive force which, when harnessed constructively, challenges individuals, groups and organisations to perform to their optimum capability"(Magi,2010).

There is also so much to say about the opportunities these dynamic industries under discussion, offer as potential investment opportunities-national and international, continuously presented on platforms of growing initiatives and development agendas. Many of such related to emerging markets as known today. This may also be perhaps because –Africa as an emerging market has enormous potential, and certainly should be on the radar of

any global company, even if it's problem lies in maintaining its political stability for a long enough period (Flaxman, 2012).But, it should be noted also that African are resilient, and are ready to forge ahead always knowing that, such instability are phases that are surmountable.

## METHODOLOGY

The area selected for this study was Lagos state, one out of the 36 states of Nigeria and business capital of the country. The population targeted for the study consisted of a simple probability random selection of Caterers, hotel operators, hospitality operators, data of women who have chosen hospitality as a second career path. To be eligible for inclusion in the study each respondent or sample had to be linked in any form to hospitality operations or hospitality training or education, known to exist.

Consequently a random sampling procedure was adopted for all the sampled population. This paper presents findings from 125 caterers, the interview of 10 hotel operators, most of them with over 30 years hotel operation working experience. Data from 80 hospitality trained Nigerian women between the year 2000-2013 from a hospitality school, to support some of this study's objectives, and the interview of one hotel developer, who is also the hospitality ambassador Of UK to Nigeria. The interview of a recognised Nigerian distinguished Ethnic cake decorator, and a large scale, highbrow outdoor catering CEO specially included.

The interview narratives enhanced the inclusion of significant insight into hospitality operations in particular, and in general in Nigeria, it provided useful quantitative and qualitative data into the nature of hospitality operations in Nigeria an emerging market (EM).A market that is constituting a major growth opportunity in evolving World economic order, their potentials affecting shifts in multinational corporations (Arnold,J and Quelch,,A 2012). These revealed key influences and critical issues that affect hospitality operators and operations, in general on a domestic and international scale.

Data was collected using structured questionnaires, to collect information on demographic characteristics and non demographic characteristics of caterers and those interviewed. However, only data about reasons for choosing a hospitality career were collected from the 80 women.

## RESULT AND DISCUSSION

The demographic characteristics of the 124 caterers in Table 1 below show a profile of dominantly single ladies, most HND holders involved in the service of food, drink and decor.

Table 1 Demographic Characteristics of Respondents (n=124)

Age	Frequency	Percent
20-30	43	35
31-40	55	44
41 above	26	21
<hr/>		
Marital status		
Single	96	75
M a r r i e d	28	27
<hr/>		
Sex		
Female	90	73
M a l e	34	27
<hr/>		
Professional qualification		
HND	59	59
ND	53	53
O t h e r s	50	50
<hr/>		
Type of operation		
Food	26	21
Food & Drink	41	36
Food & decor	33	26
Other	19	15

The mean of the group age falls between 31-40, data in table 1, show that 21% provide food only, 36% food and drinks and 26% Food and decor and 15% other snacks and food.

**Table 2 Contribution to the Nigerian Economy**

Business contribution	Frequency	Percent
Jobs for youths	86	69
Jobs to Women	54	44
Provision of service	53	43
Training of people	40	44
Others	55	44
	28	23
<hr/>		
University students	53	43
School leavers	72	58
Married Women	57	46
Trained students	79	64
Casuals	77	62
Full time	3	3

The type of staff empowered through the operations of these 124 caterers varied 43% universities students, 58% school leaver, 46% married women, 64% trained students, 62% casuals, 3% full time staff only! These figures confirm the literature about employment opportunities in hospitality operations (Flaxman, 2012). The category of school leavers employed indicate that the industry serves also as a 'stepping stone' or first job seekers e.g. school leavers. This perhaps is good news, for the industry, as these young employees can be groomed to acquire employable skills, required for a career in hospitality.

**Table 3 Economic Empowerment and earning**

No of Guest	No of Caterers	Cost at 200	Cost at 500
Less than 100(99)	26	19,800	50,000
101-600 (5001)	74	100,200	250,000
601-700	2	120,000	300,000
701 above	22	140,000	350,000
<hr/>			
Christmas guest 2012	Frequency	Percent	
less than 100	26	18	
101-600	87	66	
above 600	24	16	

Table 3 shows the result of possible earnings these caterers could have earned during the last Christmas season, with an exchange rate of 150 dollars to a Naira, which confirms the potential earnings that can be made from hospitality services. Each figure is greater than the minimum wage in Nigeria, N18,000 per month (\$4 dollars).

per day at an exchange rate of 150 dollars). This shows that a level of earning or income and financial independence is achievable through hospitality operation.

Data also indicate that these caterers employ a total of 2170 employees, which may seem little but, it could be seen as a case of building a pipeline of employees, for the industry (Rixon, 2012-1) that can be translated to other states. This also confirms that their small businesses are a source of youth and women employment and empowerment, and many more can be encouraged to start their own business.

Table 4 Factors that influence choosing this business

Reasons for operating	Frequency	Percent
Love cooking	65	52
A developed Talent	99	80
To support self	58	47

It was a surprise to confirm that the development of their talent in the area of hospitality has been a major influenced of (99%) to start their business, followed by their love for cooking. Literature has discussed the fact that economic initiatives can be a means to help citizens contribute their talent to develop their country (Magi, 2010).

Result of data studied showed that this target population of caterers (100%) are without a doubt aware that their operation provides jobs and empowers youths, homemakers, mothers and women in general and some even proactively seek to empower them. All (100%) are also aware that they are providing a service. But, then ,in reality it is observed that the food service provided generally by some of these caterers is poorly delivered, as lots of attention to details that matter are lacking, that need some form of strategic intervention to assist them in improving their service delivery, for it to meet up to expected international standard or acceptable standard. But then, some highbrow caterers, in existence have achieved this standard to a reasonable extent.

This sample also recognises the potential and opportunities that exist in this industry as 83% indicate that what they desire further for their business is the opening of more branches. Perhaps, their daily returns on investment has influence them having such a vision. The result of the data also confirmed that this population, 60% have over 6 years of experience in the industry. It is impressive to note from the data that 81% have never heard about the hospitality industry, but are operating a hospitality business. It is unimaginable what will be the case if this target population have knowledge of hospitality, their business will perhaps be more dynamic, and impact more on local community. Thus, this study has recommended two days training for these groups of caterers, to further empower them, on the knowledge of hospitality and professional food service delivery. This will also further promote the industry (Rixon, 2012) Results show that 100% claim their staff has been trained on hygiene, but the observation of the operations of caterer that abound at event, speak

otherwise – sweeping goes on with food service, for example! Preparation of ready-to-eat foods exposed to unsafe temperature conditions. Food production staff cook under unsafe conditions, temperature and procedures, along with an endless list of incredible critical control points that can cause hazards and risks, at different critical points of fork to farm process of food preparation that is known and seen to exist to state a few.

Worthy of mention is also insights obtained from interviews done ,which indicate that the Nigerian hospitality industry is full to the ‘brim’ of teeming opportunities for all stakeholders, investors, academicians, its economy and beyond, with surmountable challenges existing, also that the youths have a role to play that needs to be considered, enabled, maintained and sustained.

It answered questions on whether Nigeria is an emerging market and sustainable opportunities that exist in it. Other questions also attempted to find out the nature of challenges and constraints that exist. Interview sessions also touched on manpower needs and Hotel development. Thus, this study has identified some key findings and concludes that:

- The youth and women are employable in the hospitality sector
- Sustainability is much more than recycling and taking care of the environment. It includes supporting local communities, and (Flaxman, 2012).The foodservice sector has a potential to achieve this as seen with these caterers.
- Empowering women means empowering a nation.
- Nigeria as part of Africa has enormous potential and should be certainly in the radar of any goal company(Flaxman, 2012)
- The industry has and can play a huge role in developing its economy thus, there is a need to promote the message that hospitality along with tourism means, economic growth, job creation and development.
- Nigeria as an emerging market, recognised and unrecognised has a social structure, such as class, education, family background, which impact on opportunities, ideas,ideals,resources and skills and motivation.
- For Nigeria to achieve greatness it must harness its youths (Odoemena, 2013).Encourage original ideas that are unique to its business environment, for the industry to move ahead.
- Hospitality has huge opportunities to offer that needs to be developed so that Nigeria can also diversify from an oil and gas economy along with its natural resources and fertile lands to lands, to create other opportunities besides oil and Agriculture its lifeline (Osagie,2013)

Suggestion that a mass communication platform at its disposal, in a strategic manner, can also be used to create an atmosphere of a true and holistic opportunities, that the hospitality and tourism industry have to Offer (Okoye, 2013).

Obviously this research study is inadequate to answer all the questions the industry as a whole needs to answer as this relates to a globally 'sustainable hospitality service ship' delivery, of an emerging market, such as Nigeria-the opportunities of sustainability and empowerment, it can offer, youth, women and their operations.

But clearly, data discussed has identified-some local content facts, such as sustainable local developments, and local operations/procurements (Flaxman, 2012) as they link to hospitality operations and emerging markets opportunities. This is also to show that for example, no hotel manager can preach any service delivery message, if his staff cannot guarantee that his next wage will keep a roof over their head or feed him and his family of 5 or more. It just wouldn't sink! These are required social issues that require mechanisms to confirm sustainability. Crucial to achieve on a collaborative platform, to change the course of the opportunities that exist in emerging markets for service delivery as well as the mechanism to sustain it. In order to change the course of the World hospitality delivery ship and melt any perceive ice bergs (Salu, 2013), which is definitely crucial. Added to this the nurturing and training of young employees to be change makers, because it has been said that in the UK it is hard to find a sommelier or barman, even finding a waiter is difficult. As now students want to be chefs! Showing the industry stakeholders need to reverse this culture, which is why education also is key so educating six year olds now matter because in ten years they would be 16. Thus, there is a need now for all concerned and the industry stakeholders to think differently and work together to make it happen. The industry has to save the industry (Sirieix, 2011).

## REFERENCES

- Akunnaya, J., (2012) "The role of Entrepreneurship Education in human capacity building for National development" Nigerian Journal of Education, Health and Technological research (NJEHETR), Vol.3, No 1, Jan 2012
- Arnold, J and Quelch, J., (1998), "New Strategies in Emerging Markets" Magazine: Fall 1998 Research Feature October 15, 1998
- Cline, R., (2012) The Global Hospitality, New York. <http://www.hotelonline.com/Trends/Andersen/global.html> retrieved 17th Feb, 2012
- Flaxman, M., (2012) "Hospitality has a huge role to play in Emerging markets" Hospitality, issue 27 Autumn
- Foskette, D and Ceserani, V., (2012), The Theory of Catering, 11th edition, Hodder
- and Arnold, pp 1-27
- Houdré, H., (2012) Sustainable Hospitality: Sustainable Development in the

Hotel Industry Hotel Managers, (2012) Are Emerging Markets the Key to Growth for the International women's day "A tribute to women" 8, March, Retrieved Jan, 2012

Magi,M., (2010) "Tourism based black economic empowerment (BEE): initiatives for local communities development", Journal of Human and social science

Murry,H.,(2010) Invest in People Hospitality, issue 20,2010

Odoemena,C.,( 2013), A generation that won't grow up, The Guardian Newspaper Monday, February,20113

Okoye,U., (2013), Our Educational problem Friday, The Guardian Newspaper, February 15, 2013

Osagie,A., (2013) This Nigerian dream, The Guardian Newspaper, Friday February, 22 2013

Rifai, T., (2011) "Making a case for Tourism" Hospitality issue 21, pp 19

Rixon,K.,(2012) "Don't be constrained by your circumstances" Hospitality issue 28,winter pp 26-29

Salu,M., (2013), Zurich.....where global youths bore the burden of entire world The Guardian Newspaper, Monday, February, 4 2013.

SirieiX., (2011), "Boxing, Philosophy and the Art of service", Hospitality issue 22 pp20-23

## HOW CUSTOMERS INVOLVE SERVICE PROVIDERS

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### ABSTRACT

The emancipation of customers has raised an interest into how service providers can involve customers in their processes. In contrast, we argue that the key challenge for companies will become how they can get involved in customers' processes and that represents an unexplored area open for academic research. Our paper is conceptual with empirical illustrations and builds on a Customer Dominant business Logic approach. It presents a model of how the customer's logic is grounded in customers' rather stable interest structure and perception of service providers and how this forms different styles of using service and interacting with service providers.

### INTRODUCTION

As a response to more powerful and active customers service providers have started to discuss how the service provider could benefit from involving customers in their processes. We argue that this is an intermediate step towards a more radical shift in perspective turning the issue upside down. The key challenge for companies will be how they can get involved in customers' processes. This is the foundation for what has been labelled Customer Dominant business Logic (Heinonen et al. 2010).

A starting point for this paper is the observation that all customers are not equally interested in a particular service; some customers simply do not allocate as much attention and energy to it as other customers. A customer that is highly involved in a service category will think, feel, and act differently compared to a customer that is less interested. Similarly, the commitment to a service provider may vary among customers. Those who are highly committed will act and react differently than those who are indifferent. Combining a customer's interest in a service category, which we denote involvement, and her interest in a particular service provider, which we denote, commitment; customers can be grouped into different types. These two dimensions are proposed to describe customers' allocation of energy towards the service provider. We will in this paper show that this categorization has a fundamental impact on how customers are acting and reacting towards service providers and how it affects their logic of integrating the service provider into their lives or businesses. It will affect how companies can involve themselves in their customers' lives. We see this categorization as an indication of how much energy the customer allocate to the integration and use of a particular service. Different customers put different energy into the interaction with service providers which will have substantial effects in practice.

The purpose of this paper is to explore how customers' relate to service providers, how they involve service providers in their processes and how

value is formed for customers applying different logics. In this study we study customer logic as related to how they allocate their attention and interest.

## RESEARCH PERSPECTIVE

Customer Dominant Logic refers here to a marketing and business logic that positions the customer's logic in the centre, rather than the service provider/producer, the interaction, or the system (Heinonen et al. 2010, Heinonen et al. 2013). This means that CDL has a different focus not only compared to the Service Dominant Logic approach but also to earlier service management research. Customer Dominant Logic goes beyond traditional notions of customer orientation. Instead of focusing on what companies together with customers are doing to create services that customers will prefer, we suggest that understanding customers' strategies to accomplish their own goals should be at the core of service provider's business strategy. This might lead to a need for new frameworks, concepts, theoretical models and tools order to manage services in a highly dynamic market place with high customer activity.

Where Service Dominant Logic propositions contrast product with process (Vargo and Lusch 2004, 2008); Customer Dominant Logic stresses the contrast between the service provider's interest and view and the customer's interests and view (Heinonen et al. 2013). Service Dominant Logic pinpoints resource integration, co-creation and interaction where Customer Dominant Logic focuses on the customer's logic, experiences and customer activities. This means moving beyond understanding the co-creation processes controlled by companies and value-in-use in visible interactions and seeing customer experience as something formed within the service. Instead, taking a CDL view the focus is on understanding how companies can be involved in customer activities where value-in-use is formed in customers' own and for the company invisible actions, as well as seeing customer experiences as emerging embedded in customers' contexts, activities, and practices.

## KEY CONCEPTS

### Involvement

Customer involvement has been defined as "a person's perceived relevance of the object based on inherent needs, values and interests" (Zaichkowsky 1985, p. 342). The involvement construct has its roots in the object relation theories of psychological research in the 1940s (Sherif and Cantril 1947) and it was introduced as a framework for understanding the different positions that people take regarding social issues. The concept was later adopted by advertisement research to explain effects of advertisements (Krugman 1965), and was later on split up into enduring and situational involvement (Rothschild 1979). This split reflected the insight that people can be involved with something beyond a particular use- or purchase situation. This means that peoples' engagement with a service or product usually is explained either in terms of short-term involvement due to some imminent and necessary purchase (such as being in the market for

a new car) or long term involvement due to personal interests or values (Rothschild 1979). Involvement has been shown to be positively related to amount of product and service usage (Mittal 1995) and negatively related to the age of a person.

## Commitment

Commitment is in marketing generally seen as the attitude and intention of one party towards acting and maintaining an enduring relationship with another (Liljander and Strandvik 1995, Fullerton 2005). The construct is used to explain customers' tendencies to stick with one provider instead of switching, often described as a "psychological attachment" to an organization (Gruen et al. 2000, p. 37). Commitment has been measured with multi-item scales such as the one by Bansal, Irving and Taylor (2004), which divides commitment into normative, affective and continuance commitment. According to Bansal, Irving & Taylor (2004) commitment is negatively related to switching intention and has a positive relationship with service use. Jackson (1985) argues that customers exhibit differences in their preferred relationship closeness. She proposes a continuum varying from very close relationships where a buyer is totally committed to a seller and dependent on this as the only vendor, to a more market-like relationship where switching is easy and the parallel use of multiple vendors is possible.

Moorman, Zaltman and Deshpande's define commitment as (1992, p. 316): "Commitment to the relationship is defined as an enduring desire to maintain a valued relationship". Geyskens et al. (1996) conclude that in the business-to-business literature (channel literature) two types of commitment are often proposed, affective commitment and calculative commitment.

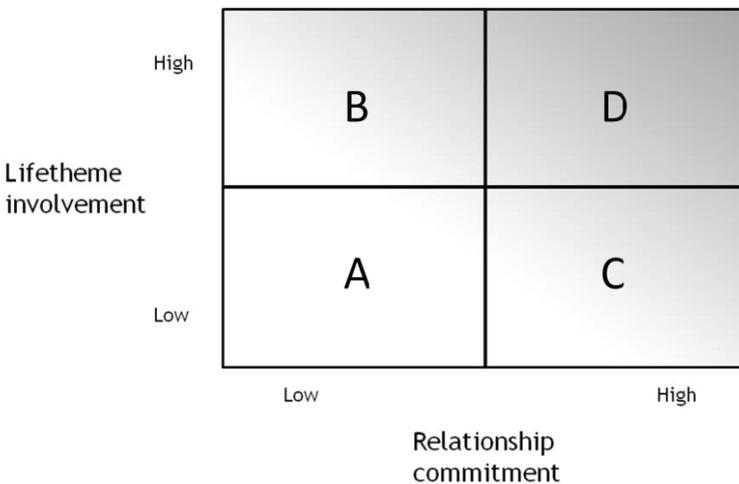
## CONCEPTUAL FRAMEWORK OF CUSTOMER ENERGY

The combination of life theme involvement and relationship commitment we conceptualize as customer energy. Life theme involvement expresses the customer's general interest in an area within his or her own life, and the knowledge, expertise, and motivation to learn about this area. A life theme can be described as the network of thoughts, feelings and activities that a consumer has built around some particular object, such as a hobby, long term goal or other activity (compare Csikszentmihalyi and Beattie 1979). It is thus related to the customer's activity pattern and resource allocation pattern. The more mental and physical effort that is spent in general, the higher the life theme involvement. Life theme involvement is used instead of product category involvement, which would express the product and production oriented view of the same issue. A production oriented view focuses on understanding the customer's involvement with a particular product or service category. A customer oriented view, on the other hand, has to be grounded in the customer's own context: What is he or she trying to achieve, and how involved is the person in it? Life theme involvement represents a general level of customer energy, directed towards a whole field consisting of many providers and activities. Based on this, we define life-theme involvement as the cognitive, affective and behavioural effort a

customer puts into a certain theme within his or her life, such as childcare, managing monetary affairs or a hobby such as gardening or cooking.

Relationship commitment refers to a customer's focused interest in a particular company, brand or branded offering. It is here considered to be a mix of both affective and calculative commitment. Many researchers and consumers understand a 'relationship' as a connection with high affective commitment. In the consumer market the consumer does not have an intensive contact with a company. Thus, it has been common to talk about brand relationships, where the consumer has a perception and a "relationship" to the brand, rather than to many persons in the firm. There is also another aspect that needs to be addressed, which is not usually included in commitment. If a customer energy view is to be taken, we must go beyond looking at affective and calculative commitment, and add an element of attention. Customer attention towards a provider can be explained as a state where the customer voluntarily keeps this relationship at the front of his or her mind and is receptive to information regarding it (Davenport and Beck 2001, Hackney 2005). Thus, the relationship commitment represents the amount of customer energy that is directed towards a particular provider.

Figure 1: Conceptual model of customer energy



## PROPOSITIONS

Based on insights from qualitative pilot studies concerning different service industries (Mattinen et al. 2001) and a quantitative study in an online gaming context (Heinonen et al. 2010) we put forward some very tentative characterizations about customers from different energy groups, A to D.

In general, however, as the quantitative study related customer energy to purchase volume (spending on online gaming) it was found that higher involvement lead to higher overall spending on gaming, whereas higher commitment increased spending at the focal service company. Customer activity followed the same pattern.

#### Group A Distanced and indifferent

- Older
- Medium switching propensity
- Switches when approached by an offer not by own initiative
- Does not compare providers
- Indifferent attitude towards service provider
- Low WOM
- Appreciate simple and easy service solutions
- Do not appreciate interaction and co-creation
- Do not complain when dissatisfied (but remember)

#### Group B Active and critical

- Younger
- High switching propensity
- Frequently compares providers
- Negative WOM
- Actively looking for the best deal
- Take initiatives
- Appreciate interaction and co-creation
- Critical attitude
- Learning-oriented, appreciate new information

#### Group C Complacent and positive

- Older
- Low switching propensity
- Seldom compares providers
- Positive attitude towards service provider
- Low WOM
- Continuity is a value in itself
- Appreciate smoothness in interactions
- Own experiences of the service provider important
- Expects to be recognized as a loyal customer
- Moderate in initiating interaction

#### Group D Attentive and content

- Younger
- Low switching propensity
- Moderately compares providers
- Positive attitude towards service provider
- Positive WOM
- Aware of alternatives
- Critical but tolerant
- Appreciate interaction and co-creation
- Learning-oriented

The service is a part of the customers identity

Based on several small-scale pilot studies of different service industries group A seems in general to be the largest group and group B the smallest. This is something that represents an interesting issue for further research.

Customers with low energy in a certain service market tend to not approach

service providers actively, rather they appreciate easy solutions and as little interaction as possible. Customers energized by high involvement in a particular field display a different logic. They tend to be constantly on the alert to find the currently best service for them. They are active and demanding and involve service providers in interactions, and compare service providers' offerings. Customers who are energized by having a stable long-term relationship with a service provider are open for co-creation and interaction with their own service provider but do not engage in interactions with competing service providers. Finally, customers who are energized both by involvement and commitment tend to be rather stable in their relationships and open for communication and interaction. As a tentative conclusion: customers who express a high involvement in a particular life theme (service category) would be those that would be proactive in involving service providers. Those who are low in both involvement and commitment do probably not take steps to involve service providers. They might represent a large share of all customers.

## DISCUSSION

The paper puts the customer in the foreground in a service context and shows that it is essential to recognize differences in customers' activities and logic, driven by customers' service category involvement and commitment to service providers. The key advantage with the model and the elements of the model, life theme involvement and relationship commitment is that they can be considered to capture a customer's relatively stable mental predisposition and behavioural pattern and has thus predictive power beyond for example customer satisfaction measurements. As commitment has shown to be a useful in diagnosing customer relationship dynamics (the Conversion model in Richards 1996, Hofmeyr and Rice 2000) it seems reasonable to expect that the customer energy model also would have such characteristics. This represents one area for further research. Another is to look more closely into whether customer profitability portfolios can be formed based on customer energy data.

For practitioners the conceptualisation represents a straight-forward approach that complements customer satisfaction measurements. It has a stronger emphasis on customers' enduring patterns of communicating, searching for information, relating to the company's relationship development initiatives, considering switching service provider, and spending money. As the model is easy to operationalize and administer quantitatively, it should provide an opportunity to collect information about customers that has not been used in the company earlier.

## REFERENCES

Bansal, H. S., Irving P. G., Taylor, S. F. (2004), "A three-component model of customer commitment to service providers", *Journal of the Academy of Marketing Science*. Vol. 32, No.3, 234-250

Csikszentmihalyi, M. and Beattie (1979) "Life Themes: a Theoretical and Empirical Exploration of Their Origins and Effects", *Journal of Humanistic Psychology*, Vol. 19, No. 1, pp. 45-63

Davenport, Thomas H. and Beck, J.C. (2001) *The Attention Economy*, Harvard Business School Press, USA

Fullerton, Gordon. (2005), "How commitment both enables and undermines marketing relationships", *European Journal of Marketing* 39:11/12, 1372-1388

Geyskens, I., Steenkamp, J.E.M., Scheer, L.K. and Kumar, N. (1996), "The effects of trust and interdependence on relationship commitment: a transatlantic study", *International Journal of Research in Marketing*, Vol. 13 No. 4, pp. 303-17

Gruen, Thomas W, Summers and John O, Acito, Frank (2000), "Relationship Marketing Activities, Commitment, and Membership Behaviors in Professional Associations", *Journal of Marketing*, Vol. 64, Iss. 3, pp 34-49

Hackney, Ray (2005), "E-business strategies: the nature of customer attention", *Journal of Global Information Management*, Vol. 13, Iss. 2

Heinonen, K., Strandvik, T., Mickelsson, K-J., Edvardsson, B. Sundström, E. & Andersson, P. (2010), "A customer dominant logic of service", *Journal of Service Management*, Vol. 21, No. 4, pp. 531-548

Heinonen, K, Strandvik, T & Voima, P.( 2013), "Customer dominant value formation in service", *European Business Review*, Vol. 25, No. 2, pp. 104-123.

Hofmeyr, Jan and Butch Rice (2000), *Commitment-Led Marketing. The Key to Brand Profits is in the Customer's Mind*, John Wiley & Sons Ltd, England

Jackson, Bund Barbara (1985), *Build customer relationships that last*, Harvard Business Review, November-December, 120-128

Krugman, Herbert E (1965), "The Impact of television Advertising; Learning Without Involvement", *Public Opinion Quarterly*, Vol. 29.

Liljander, Veronica och Tore Strandvik (1995): "The Nature of Customer Relationships in Services", in *Advances in Services Marketing and Management*, Vol. 4, 1995, JAI Press Inc., pp. 141-167

Mattinen, Hannu, Tore Strandvik and Mika Raulas (2001), *Interactivity 2002*, unpublished research report in Finnish, Helsinki, a part reported in Finnish in *Digitaalinen markkinointi*, eds. Merisavo, Vesanen, Raulas, Virtanen, Talentum, Helsinki, 2006 as chapter 2.4 "Malli asiakkuiden energisyydestä".

Mittal, Banwari (1995), "A comparative analysis of four scales of consumer involvement," *Psychology & Marketing*, 12 (7), 663-682.

Moorman, Christine. Rohit Deshpande. and Gerald Zaltman (1993), "Factors Affecting Trust in Market Research Relationships", *Journal of*

Marketing, Vol. 57 (January), 81-101

Richards, Trevor (1996), Using the conversion model to optimize customer retention, *Managing Service Quality*, Vol. 6, No. 4, pp. 48-52

Rothschild, Michael L (1979), *Advertising Strategies for High and Low Involvement Situations*; ed. Maloney, J C & Silverman, B; "Attitude Research Plays for High Stakes" (s. 74-93); Chicago; American Marketing Association

Sherif, M; Cantril, H (1947); *Psychology of Ego-Involvements*, John Wiley & Sons Ltd, New York

Vargo, S.L and Lusch, R.F (2004), Evolving To a New Dominant Logic for Marketing, *Journal of Marketing*, Vol. 68, No.1, pp. 1-17

Vargo, S.L. and Lusch, R.F (2008), Service-dominant logic: Continuing the evolution. *Journal of the Academy of Marketing Science*, Vol. 36, No. 1, pp. 1-10

Zaichkowsky, J.L. (1985), "Measuring the Involvement Construct", *Journal of Consumer Research*, Vol. 12, No. 3, pp. 341-352

# HOW TO CHANGE BUSINESSES IN THE AGE OF SERVICE SCIENCE

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## ABSTRACT

Customers do not only expect a product, but they also demand holistic solutions which can only be provided in the form of complex product-service systems. In addition, companies count on service innovations to achieve a positive advantage to competitors and to strengthen their market position. These circumstances are forcing companies to develop new services and to transform their offerings into complex product-service systems, which in return affects the business model. To support companies during such a challenge, this paper provides an approach for the integrated service and business model development and improvement.

## THE IMPORTANCE OF SERVICES

Due to the fact that service innovation is the engine of economic growth and employment, the service sector is the fastest growing segment of global economies (Neely, Benedettini, & Visnjic, 2011). The importance of services, both from an overall economic perspective and from a business perspective, has increased significantly over recent decades. According to the report “Austria – figures and facts 2012/13” about 70 percent of the gross value added in Austria are provided by the so-called tertiary sector. The continuous growth over the past 20 years of about four percent per year confirmed the dominance of the service sector (Statistik-Austria, 2013).

Another factor underlining the importance of service innovation is that nowadays customers require holistic solutions. For example, an entrepreneur needs a high-performance printer in the office and would not worry about maintenance intervals or reorder printer toners. The manufacturer should take care of the regular maintenance and ensure that there is always a new toner cartridge in the office when the current cartridge in the printer is running low. The requirements of the trend toward hybridization of products and increasingly complex product-service systems (Edvardsson, 1997) can only be covered in many cases with increased application of information and communication technologies (ICT) (Kreuzer & Aschbacher, 2010). The digitalization, which completely enables new types of intelligent or smart services (Allmendinger & Lombreglia, 2005) is a further factor emphasizing the importance of service innovation. There is also a trend to higher ICT usage in classical bundling of value-added services and a strong relationship between new technologies and new services. New technologies can often only be commercialized by developing new services. New services, as mentioned before, can often only be offered by using ICT. Therefore, new technologies are drivers for new services and vice versa (Kreuzer & Aschbacher).

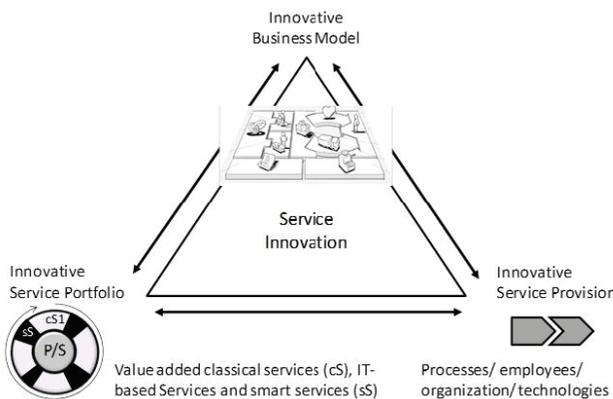
The high transformative power for business model innovation (EU, 2011) is, from the point of view of the authors of this paper, one of the most important characteristics of service innovation. The complex car2go (car2go, 2013) service system is a good example for the transformative power of service innovation. A car2go offers spontaneous and flexible urban mobility without owning your own car. Customers can easily find a car2go (online, via App or directly on the street) and just take it, drive it and park it. After signing up, customers receive a member card with which they can open a car2go, drive from A to B and park the car2go again, that's it. This "hybrid value bundle" (product-services bundle) is the heart of the car2go business model, saves money, offers flexibility and helps the environment.

In addition to the above-mentioned characteristics, there are of course further different economic and strategic rationales for the increasing importance of service innovation and comprehensive product service systems, such as the lock-in effects for customers or the achievement of competitor lock-out effects (Neely, Benedettini, & Visnjic, 2011).

The literature for the term "service innovation" is very fragmented and heterogeneous. The following definition shows, how the authors of this paper interpret this topic. "Service innovation can be seen as the systematic development, design and testing of new and/or improved service offerings, processes and business models using multidisciplinary social science, engineering and technology-enabled models, methods and tools." (Ehrenhöfer & Kreuzer, 2012).

As shown in figure 1, service innovation mainly follows three directions of impact.

Figure 1: Service Innovation Triangle



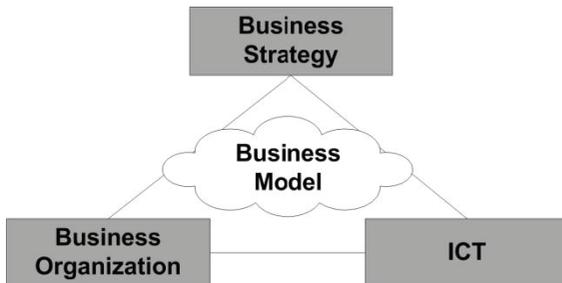
Companies that are developing new services and transforming their offerings into complex service systems often have to change or adapt their

business models more or less fundamentally to service-based organizations in order to gain the desired success in the market (Chesbrough, 2011). This is confirmed by the following case study in the field of Software-as-a-Service, one variation of cloud computing.

## INTEGRATED SERVICE AND BUSINESS MODEL DEVELOPMENT

Previously, the characteristics of services respectively service innovations were explained. Therefore, what is a business model, what is it that makes it so special and how does the services and business models fit together? A business model can be seen as the conceptual and architectural implementation of a business strategy (Stähler, 2002). Furthermore, the business model forms the basis for the implementation of business processes (Osterwalder & Pigneur, 2002). To receive a better understanding of the business model and its role, Figure 2 illustrates the place of the business model within a company. The business model can function as a federator between strategy, business organization and ICT (Osterwalder A. , 2004).

Figure 2: Business model, strategy, process and ICT



The Business Model Canvas (see Figure 3) according to Osterwalder & Pigneur (2010) is currently one of the most appropriate tools to view a business model. The Canvas consists of nine building blocks:

**Customer segments** – define the different groups of people or organizations a company wants to reach and serve

**Value propositions** – describe the bundle of products and services that create value for a specific customer segment

**Customer channels** – describe how a company reaches its customer segments to deliver the value proposition

**Customer relationships** – describe the type of relationships a company establishes with specific customer segments

**Revenue streams** – represent the cash a company generates from each customer segment

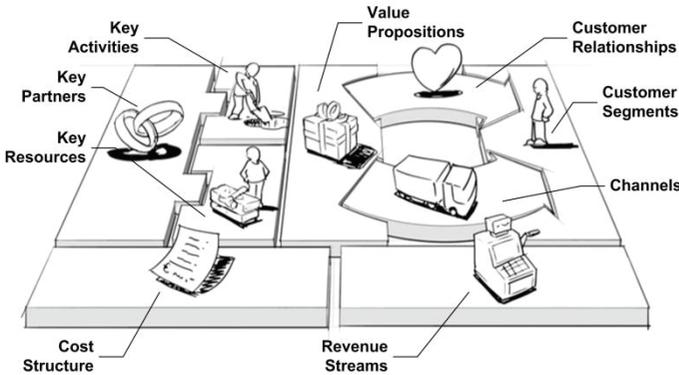
**Key activities** – describe the most important things a company must do to make a business model work

Key resources – describe the most important assets required to make a business model work

Key partners – describe the network of suppliers and partners a company needs to make the business model work

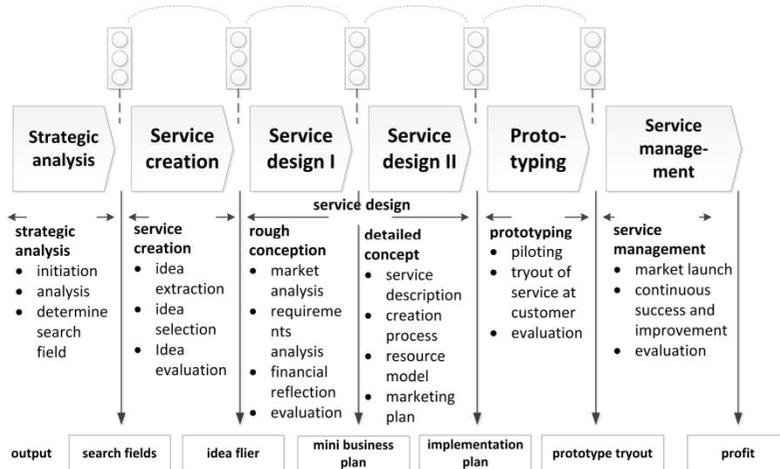
Cost structure – describe all costs that arise when operating the business model

Figure 3: Business Model Canvas (Osterwalder & Pigneur, 2010)



The case study on how to develop a cloud-based Software-as-a-Service solution (product-service bundle) was conducted with the company rmDATA, an IT service provider located in Austria which offers software for surveying, geoinformation and geodata management. The aim of the case study was to extend the range of offers with a new product-service bundle according to the Software-as-a-Service approach. The new product-service bundle has been developed according to a service engineering approach (Figure 4) of the University of Applied Sciences CAMPUS 02 in Graz, Austria. This approach is divided into six stages and all these stages are defined by specific inputs, a number or set of recommended methods and tools and a specific outcome and deliverables. Between each stage, there is a quality control milestone the selected service must pass before continuing to the next stage. The work itself is done in several stages and the gates ensure that the features of the future services fit the customer requirements (Kreuzer & Aschbacher, 2010).

Figure 4: Strategy-based service engineering approach (Kreuzer & Aschbacher, 2010)



### 1) Strategic Analysis Stage

To start with a strategic view on service innovation, in the first phase the current product-service system has to be analyzed. In the case study a SWOT analysis and portfolio analysis were conducted to discover search fields for the offering of new product-service bundles. It soon became clear that the representation of the current business model can be very helpful for analyzing the present situation. Therefore, the project team decided to represent the business model of rmDATA with the Business Model Canvas (see Figure 3). Furthermore, in this phase a corporate analysis and a business environment analysis to identify more search fields for new services were created. The corporate analysis contained a strategy profile of the existing company.

Points of contact identified to the Business Model Canvas in the first stage: the Business Model Canvas is very helpful to represent the current business model and to identify internal and external influencing factors as well as different search fields for new services.

### 2) Service Creation Stage

After identifying the search fields for new services, the next step was to generate and evaluate different ideas for new service innovations. Methods used in the service creation stage of the case study were, among other things, gap analysis, trend studies and customer feedback.

One of the main questions in the service creation stage of the service engineering process was, whether the selected service idea matches the business goals and fits into the current value proposition. This question was the major point of contact between the service engineering and the business model design process. The result in the case study showed that the new service idea requires a new or adapted business model.

Points of contact identified to the Business Model Canvas in this stage: the business model canvas can be used to check if the service idea fits

into the current product-service mix and if the new service idea creates customer value or benefit.

Furthermore, the usage of the value proposition canvas (Osterwalder A. , 2013) is strongly recommended in this stage. This canvas is a simple and practical way to rapidly sketch out a new service idea and to check how this will create a benefit for the different customer segments and which customer jobs, pains and gains (Osterwalder A. , 2013) the new service idea addresses.

### *3) Service Design I*

In this stage, different business cases for the new service idea and a mini business plan which comprises market characteristics, customer characteristics, competitive analysis of the strongest competitors and the analysis of the potential contribution to sales, costs and revenues was developed. To check the practical suitability of the new service idea as soon as possible interviews with representatives of different customer segments were conducted.

Points of contact identified to the Business Model Canvas in this stage of the service engineering approach: the content of the mini business plan matches the building blocks customer segments, revenue streams and cost structure of the business model canvas.

### *4) Service Design II*

The aim of this stage was the design of the service-, process- and resource model for the new service idea. The service model describes the achievement of the service before the service can be offered to the customer, also known as the result dimension. The process model describes how the results of the service are accomplished (process steps, interfaces). The resource model assists the planning of the resource assignment, which is required for the subsequent provision of the service (employees, current assets, information infrastructure, etc.). Additionally, in this stage the marketing concept comprising the marketing strategy and the marketing mix for the new service should be created.

In the present case study a detailed concept for the new service was generated und during the creation of the service-, process- and resource model commonalities with the Business Model Canvas were identified. The development of various different business model versions occurs usually in this stage.

Points of contact identified to the Business Model Canvas: there are clear parallels between the service model and the value propositions, between the resource model and the key resources respectively key partners and between the process model and the key activities. The defined marketing plan, once again, is represented in the building blocks customer segments, customer relationships and customer channels.

### *5) Prototyping*

The most important thing in the prototyping stage is to test the new service offering in the field, accept the feedback and adapt/improve the service

(service-, resource- and process model) and the business model. The project team has now reached this stage. Currently the company rmDATA works closely with a pilot customer to fine-tune the new cloud-based solution. Before rmDATA can start with the service management phase, the marketing concept for the new service offering has to be finished.

Points of contact identified to the Business Model Canvas: fine tuning of the entire business model because of the feedback from participating customers.

#### *6) Service Management*

The management phase was not part of the case study because rmDATA is still situated in the prototyping phase. For the sake of the completeness, it must be mentioned that, the final stage includes the implementation of the service into the (product-) service system, market launch, training of employees and service providers and other activities to achieve commercial success. Besides the market implementation, the continuous evaluation and optimization of the services is essential for the company's success.

Points of contact identified to the business model canvas: continuous assessment of different (internal and external) influencing factors and evaluation, adaption or transformation of the business model.

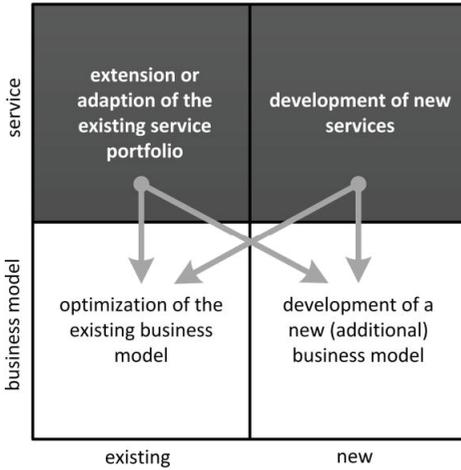
#### *Results and findings:*

One of the key findings emerging from this case study is that the development of new innovative services and business models cannot be considered separately. As shown in figure 4, the strategy-based service engineering approach in fact contains the implementation of a "mini business plan", however, the case study shows that the link between service engineering and business model design must be improved. Therefore, the following framework provides an approach for the conception, control and optimization of service and business model innovation. The service engineering approach by Fraunhofer IAO (Meiren, 2011) contains another point of view. According to this service engineering process, the development of the business model is finished before the service design, implementation and market launch phase. The authors of this paper question this view and recommend the following integrated approach.

### **INTEGRATED SERVICE AND BUSINESS MODEL FRAMEWORK**

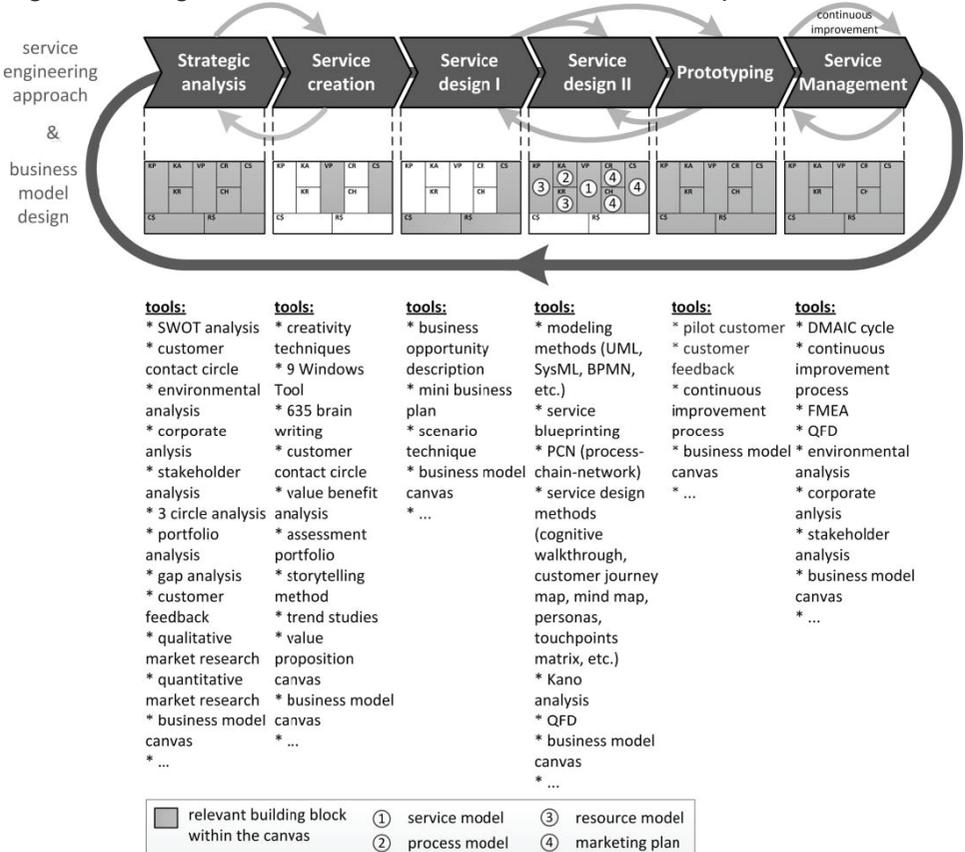
Taking into account the effect of the development or the improvement of (new) services on the business model and vice versa the following four-field matrix (figure 5) can be used for representing the strategic initial situation of the enterprise. In order to change business by realizing service innovation, the matrix represents the strategic initial situation of the enterprise.

Figure 5: four-field matrix for representing the strategic initial situation



As shown in figure 5, the framework in the current paper focuses on the value proposition driven business model development (extension or adaption of the existing service portfolio/development of new services).

Figure 6: integrated service and business model development framework



As shown in figure 6, the integrated service and business model development framework follows an iterative approach. New findings in the service creation stage may cause the need to repeat or to refine parts of the strategic analysis. The same applies to the prototype stage: lessons learned in this stage can force to execute the service design phase once again. In the service management stage the implementation of a continuous improvement cycle is strongly recommended. One method of doing so, is the four step service (re)engineering cycle (Kreuzer & Aschbacher, 2010). The first step contains the analysis of the customer requirements and all internal and external factors which may influence the current service offering. The modeling of the service strategy map is the focus of the second step. The third step treats the service performance measurement. Finally, the optimization and service performance improvement are located in step four of the continuous improvement service cycle.

## REFERENCES

- Allmendinger, G., & Lombreglia, R. (2005). Four Strategies for the Age of Smart Services. *Harvard Business Review*.
- car2go. (2013, March 17). Retrieved from [www.car2go.com](http://www.car2go.com)
- Chesbrough, H. (2011). *Open Service Innovation*. John Wiley & Sons.
- Edvardsson, B. (1997). Quality in New Service Development: Key Concepts and a Frame. *International Journal of Production Economics* (52), 31–46.
- Ehrenhöfer, C., & Kreuzer, E. (2012). The Role of Business Model Design in the Service Engineering Process - A Comparative Case Study in the Field of Cloud Computing to Join Service Engineering with Business Model Design. *Annual SRII Global Conference 2012*. San José, California, USA.
- EU, T. E. (2011). *The Transformative Power of Service Innovation. Meeting the Challenge of Europe 2020*.
- Kreuzer, E., & Aschbacher, H. (2010). Systematic Development and Improvement of Comprehensive IT-Based Service Offerings and Product-Service Systems. *SERVISIG 2010 - International Service Research Conference*, Porto/Portugal.
- Kreuzer, E., & Aschbacher, H. (n.d.). Strategy-Based Service Business Development for Small and Medium Sized Enterprises (SMEs). *IESS 1.1 - Second International Conference on Exploring Services Sciences*, Genf 2011, to be published in: M. Snene, J. Ralyté, and J.-H. Morin (Eds.): *IESS 2011, LNBIP 82*, pp. 173--188. Springer, Heidelberg (2011).
- Meiren, T. (2011). *Mit neuen innovativen Dienstleistungen die Wettbewerbsfähigkeit sichern*. ServTec Austria, Graz.
- Neely, A., Benedettini, O., & Visnjic, I. (2011). *The servitization of manufacturing: Further evidence*. University of Cambridge.

Osterwalder, A. (2004). The Business Model Ontology: a Proposition in a Design Science Approach. Université de Lausanne: Diplôme postgrade en Informatique et Organisation (DPIO).

Osterwalder, A. (2013, March 22). Business Model Generation. Retrieved from [http://www.businessmodelgeneration.com/downloads/value\\_proposition\\_canvas.pdf](http://www.businessmodelgeneration.com/downloads/value_proposition_canvas.pdf)

Osterwalder, A., & Pigneur, Y. (2002). An e-Business Model Ontology for Modelling e-Business. 15th Bled Electronic Commerce Conference Bled. Slovenia.

Osterwalder, A., & Pigneur, Y. (2010). Business Model Generation: A Handbook for Visionaries, Game Changers, and Challengers. New Jersey: Published by John Wiley & Sons, Inc.

Stähler, P. (2002). Geschäftsmodelle in der digitalen Ökonomie. St. Gallen: EUL Verlag.

Statistik-Austria. (2013). Austria - Data.Figures.Facts 2012/13. Vienna: Statistik-Austria.

# **HYBRID OFFERINGS: HOW SERVICE BUILDS RELATIONSHIPS WITH LARGE BUSINESS CUSTOMERS IN GLOBAL MARKETS**

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## **ABSTRACT**

This study investigates how service and relationship marketing programs deliver value in a relationship in which a supplier delivers a hybrid offering (combined goods and services) to a large business customer.

There is little research on this topic. Tuli et al. (2007) analyzed qualitative interviews within customer and supplier firms to understand hybrid offerings or “solutions.” A meta-analysis of 111 B2B studies shows that many variables (e.g., seller expertise) influence customer and firm outcomes via perceptions of relationship quality (Palmatier et al. 2006); few (if any) of the studies were B2B services. A study of 137 European B2B firms found that service increased manufacturer revenues from goods and services (Antiooco et al. 2008) – but it didn’t study the mechanisms that create customer value.

Our goal is to explore how service quality and relationship programs differentially support B2B relationships involving hybrid offerings. We develop a theory-based model from two research streams that seldom overlap: service and B2B relationship marketing. We bridge them by building upon research about group decision making (Kirkman, Lowe and Gibson 2006). We address three research questions.

1. How do service users’ opinions of service quality, including service recovery, influence the decision maker’s evaluation of the B2B relationship with the supplier of a hybrid offering, after accounting for his/her opinion about service quality?
2. How do cultural differences, especially individualism versus collectivism, influence how decision makers weigh the opinions of service users in forming their overall evaluation of their firm’s relationship with the supplier of a hybrid offering?
3. How do the decision maker’s perceptions of different types of relationship marketing programs influence their evaluations of the B2B relationship with the supplier of a hybrid offering, after controlling for the direct and indirect effects of service quality and recovery perceptions?

We model how service quality and relationship marketing programs directly influence decision makers’ evaluations of the value delivered by a supplier. Service quality has a “double whammy” because it indirectly influences the decision maker when s/he weighs service users’ opinions. Our Generalized Linear Model is estimated with survey data from a decision maker and service user (i.e., a dyad within a buying firm) and internal records from

161 large business customers of a global supplier.

The results show that decision makers' perceived value is influenced by their perceptions of the supplier's service quality, its financial and social relationship marketing programs, but not its structural programs. Their evaluations are heavily influenced by service users' perceptions of service quality, accounting for as much variance as the decision maker's perceptions. Structural relationship marketing programs influence decision maker perceptions of value indirectly, via the service user's perceptions of service recovery. The direct and indirect effects of service users' perceptions are weighed more heavily in collectivist cultures. Post-study interviews with 28 executives offer insights about how to better manage service and relationship programs.

This study makes four contributions. It focuses on the role of service in B2B relationships – which has received limited attention. Second, it describes how a supplier's service quality and relationship marketing programs differentially influence customer value for hybrid offerings. Third, it describes how service users' opinions influence a decision maker's value judgments across national cultures that have different levels of participatory decision making.

## REFERENCES

- Antioco, M., Moenaert, R. K., Lindgreen, A. and Wetzels, M. G. M. (2008), "Organizational antecedents to and consequences of service business orientations in manufacturing companies", *Journal of the Academy of Marketing Science*, 36, 337-358
- Kirkman, B.L., Lowe, K. B. and Gibson, C. B. (2006), "A quarter century of culture's consequences: A review of empirical research incorporating Hofstede's cultural values framework", *Journal of International Business Studies*, 37 (3) 285-320
- Palmatier, R.W., Dant, R. P., Grewal, D. and Evans, K. (2006), "Factors influencing the effectiveness of relationship marketing: A meta-analysis", *Journal of Marketing*, 70 (4) 136-153
- Tuli, Kapil, Ajay Kohli and Sundar G. Bharadwaj (2007), "Rethinking Customer Solutions: From Product Bundles to Relational Processes", *Journal of Marketing*, 71 (4), 1-17

# IMPACT OF WORKLOAD ON WAITERS' PERFORMANCE

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## ABSTRACT

We analyze a large operational data set from a restaurant chain to shed new light on how workload (defined as the average number of tables assigned to a server) affects servers' performance (measured as sales). We find inverted-U shaped relationships between workload and performance. In the focal restaurant chain we find that this saturation point is generally not reached and, counter-intuitively, the chain can reduce the staffing level and achieve both significantly higher sales (an estimated 3% increase) and lower labor costs (an estimated 17% decrease).

## INTRODUCTION

Labor is typically one of the largest cost components of service organizations such as retail stores, call centers and restaurants, and labor decisions are known to drive operational performance in services. For example, Zenios et al. (2011) found that hospitals could potentially reduce staffing costs of nurses by 39% to 49% by deferring staffing decisions until more information about procedure type is available. In a retail setting, Perdikaki et al. (2011) found that store staffing levels influenced the conversion of traffic into sales, although the sales return on labor increases diminished. In another retail study, Mani et al. (2011) estimated that an optimal staffing level could improve average store profitability by 3.8% to 5.9%. Not surprisingly, many service companies are increasingly utilizing computerized staffing tools. In most of these scheduling systems, however, employee productivity is calculated using "grand averages" of historical data, thus overlooking employees' adaptive behavior towards changing work environments, as reflected, for instance, in a call center survey (Gans et al., 2003). In another example, Brown et al. (2005) found several anomalies suggesting that some behavioral aspects of labor management may lead to serious staffing errors.

This simplified view of human productivity is inherited from classical operations management (OM) models which often assume that productivity is independent from the state of the system, or at best that productivity has random variations (see Boudreau et al., 2003 for comprehensive reviews). Recent efforts have bridged OM models and human resource management in order to relax the rigid assumptions of the classical OM models and study the impact of external factors on individuals' performance. For example, Schultz et al. (1998) challenge the traditional OM assumption that a worker's production rate is independent from the environment. In a production line simulation experiment, they found that individuals' processing times were dependent on the state of the system, such as the buffer size, as well as on the processing speed of co-workers. While this stream of research is experimental, real-world systems are generally more complex, and therefore Boudreau et al. (2003) call for empirical studies to

validate the behavioral lab findings in real industrial settings.

A very recent stream of empirical papers has answered this call. Closer to the question posed in this study, several researchers have recently turned to understanding the impact of workload, an integral environmental factor, on individual performance. They often use healthcare services as a test-bed. For example, Kc and Terwiesch (2009) provide a rigorous empirical analysis of the impact of workload on service time and patient safety using operational data from patient transport services in cardiothoracic surgery. They found that workers speed up as workload increased, but that positive effect may be diminished after long periods of high workload.

Little research has examined the impact of workload on performance in a restaurant setting, where waiters are critical to both quality and speed in a service experience. While papers on restaurant management have analyzed the impact of pricing, table mix, table characteristics, food, atmosphere, fairness of wait and staff training on financial performance (see Kimes and Robson 2004; Kimes and Thompson 2004; Sulek and Hensley 2004), we contribute by showing that staff workload has a major impact on revenue generation.

In this paper, we propose an inverted U-shaped relationship between workload and performance and test it using a set of unique and very detailed transaction-level data from a restaurant chain's point-of-sales system that contains around 190,000 check-level observations for five restaurants from August 2010 to June 2011. We demonstrate how staffing capacity can be leveraged to optimize the workload. After disentangling the endogeneity of demand and supply in this setting using a natural experiment (labor management software implementation) and other instruments, we find that servers react to the workload in the following way. Surprisingly, when the overall workload is small, sales increase with the increase in workload. However, above a certain threshold (around 2.59 tables per server) sales start decreasing with the rise in workload. On average, the restaurant chain in our study has about 2.16 tables per server. We conclude that it is largely overstaffed and that reducing the number of waiters can both significantly increase sales and reduce costs.

## HYPOTHESIS DEVELOPMENT

While the diner's preferences for menu items is the key factor that determines the sales per check, these preferences can be influenced by servers via suggestive selling efforts which increase restaurant sales (Fitzsimmons and Maurer, 1991). Such efforts include up-selling low-price menu items and cross-selling items that diners would otherwise not order. Research shows that diners are more likely to purchase a dessert or after-meal drinks if a server makes such a suggestion when clearing the plates of the main course. In addition, servers' suggestions for appetizers, soup, wine and high-margin items are also known to stimulate demand that would otherwise be unexpressed. Thus, when the initial workload is low, an increasing workload may motivate servers to exert a more suggestive selling effort for psychological reasons similar to those stated above. Indeed, cognitive psychology suggests that workload may trigger the

cortex to release hormones that improve cognitive performance (Lupien et al., 2007). According to Parkinson's Law, employees tend to fill idle time with irrelevant activities, such as smoking outside, chatting with each other and folding napkins, creating inefficiency as opposed to selling more items. Hence, increasing the workload may reduce servers' idle time, thus increasing their selling effort. However, when workload surpasses a critical level and becomes too high, it is likely to limit sales per check: servers may become so occupied with carrying food that they have no time to conduct suggestive selling. In addition, they may be distracted by other diners, reducing their sales service effectiveness. Fatigue caused by heavy workload may also lead to reduced effort. Servers may even suffer from "contact overload", the emotional drain from handling too many customers over a prolonged period of time (Mill, 2004). The result of contact overload can be emotional burnout, which reduces a server's sales efforts and effectiveness. For these reasons we hypothesize that:

**HYPOTHESIS 1 (H1):** As workload increases, hourly sales will first increase and then decrease.

We argue that, when the workload is low, a higher level of workload will prolong meal duration. Operationally, when a server serves more diners, his/her attention is divided into smaller portions because of process sharing. Consequently, he/she may not address diners' needs promptly, thus extending meal duration. For example, diner *i* may need some assistance from his/her server, who is busy serving other diners. Therefore, diner *i* has to wait to get the server's attention. Furthermore, workload can be seen as a challenge and therefore a motivation stimulus (Deci et al., 1989). As workload increases, motivation also increases, which is shown to improve effort. The server may be more motivated to make recommendations and suggest additional menu items. As a result, diners order extra food, which extends the meal. However, when workload becomes too high, a higher level of workload may encourage servers to speed up. One reason is that servers may want to reduce the costs of customer waiting (e.g., waiting to settle the check) by accelerating service. Kc and Terwiesch (2009) find empirical evidence in the hospital setting that the higher workload reduces the service time. Moreover, when servers are overworked, they may cut corners, thus reducing service time (Oliva and Serman, 2001). From a psychological perspective, a too high workload may cause servers to become frustrated. Consequently, they may rush diners by presenting the check without being asked. Similarly, Brown et al. (2005) found that call center agents intentionally hung up on callers to reduce their workload and obtain extra rest time. Based on the arguments above, we propose an inverted U-shaped relationship between workload and meal duration.

**HYPOTHESIS 2 (H2):** As workload increases, meal duration first increases and then decreases.

## RESEARCH SETTING AND DATA COLLECTION

To examine our research hypotheses, we worked closely with a restaurant chain management to collect point-of-sales (POS) data from five

restaurants owned and operated by Alpha (the real name is disguised for confidentiality reasons), a restaurant chain that offers family-style casual dining service in the Boston suburbs. We gained access to their sales data as part of implementing a new server scheduling system, which is used for identification purposes. The restaurants are open from 11:30 am to 10:00 pm from Monday to Thursday, and 11:30 am to 11:00 pm from Friday to Sunday. The restaurants have a full-service bar and offer internationally-inspired fusion food. Our study focuses on the main dining room because the bar and the take-out services operate according to a different business model and they would require different operationalization of variables. The data that we possess consists of 11 months of transactions from August 2010 to June 2011. The transaction data includes information about sales, party size, when each service started and ended, and who was the server. In order to reduce the influence of outliers (e.g., very large parties and private events), we drop those transactions which include the day's top and bottom 7.5% of checks. Our final data set includes about 190,000 check-level observations. We believe that our restaurant sample represents an appropriate data set to study the impact of workload on restaurant performance because we possess comprehensive temporal and monetary information for each meal service that occurred during both busy and non-busy hours, allowing us to systematically quantify the impact of workload on servers' performance. At the same time, the data set we possess is among the largest and most granular in the existing literature.

## MEASURES

We operationalize dependent variables  $Sales_i$  and  $MealDuration_i$  to reflect the sales and the length of a check  $i$ , which is exclusively assigned to one server in the POS data. We infer the meal duration of each check from check opening and closing times recorded in our POS data. This inferred duration could be slightly inaccurate because diners could arrive before the check was opened and they could leave after the check was opened. Nevertheless, our meal duration measure directly captures the server's involvement with the customer (rather than, say, the host's involvement before the check is open) and is also consistent with previous literature (Kimes, 2004).

We define the key independent variable  $AvgTables_i$  as the average number of tables (parties) that a server handles simultaneously together with the check  $i$  being analyzed. For example, suppose check  $i$  lasts 40 minutes. During this period, a server overlaps with another table (party) for 20 minutes. Our workload measure  $AvgTables_i$  is  $(40 \text{ min} + 20 \text{ min}) / (40 \text{ min}) = 1.5$  tables. First, weighting the workload by the meal duration reflects the exact amount of load that affects check  $i$  because the time spent on other tables either before or after check  $i$  should largely not affect check  $i$ . We used alternative individual-level workload measures, such as the number of tables either at the beginning of or at the end of check  $i$  (Kc and Terwiesch (2009) counted the hospital bed occupancy at the beginning of a patient's admission). These alternative measures yielded qualitatively congruent results. We believe, however, that tables are more appropriate than diners as our main analysis for the following reasons. Tables (parties) are likely to be more salient than diners for servers because 1) hosts and

hostesses are instructed to distribute tables (parties) evenly among the servers, 2) servers are assigned to sections, which consist of a relatively fixed number of tables, although some smaller tables can be combined to form a bigger table. In addition, the marginal workload of an additional table is more significant than the marginal workload of an extra diner in a party because a server needs to perform a fixed set of procedures, such as taking the order, to every table regardless of the party size. Of course, the number of diners is a reasonable alternative workload measure. We analyzed it in the robustness check section and the results are qualitatively the same.

## ESTIMATION AND RESULTS

We first specify the following multivariate regression models to provide a preliminary analysis of the relationship between workload and servers' performance:

$$\begin{aligned} \log(\text{Sales}_i) = & \alpha_0 + \alpha_1 \text{AvgTables}_i + \alpha_2 \text{AvgTables}_i^2 + \alpha_3 \text{PartySize}_i \\ & + \alpha_4 \text{Controls}_i + \varepsilon_i \end{aligned} \quad (1.1)$$

$$\begin{aligned} \log(\text{MealDuration}_i) = & \beta_0 + \beta_1 \text{AvgTables}_i + \beta_2 \text{AvgTables}_i^2 + \beta_3 \text{PartySize}_i + \\ & \beta_4 \text{StoreItems}_i + \beta_5 \text{Controls}_i + \xi_i \end{aligned} \quad (1.2)$$

In these models, we center AvgTables and AvgTables2 around their means to reduce collinearity. Variable PartySize is the number of diners in a particular party, which should affect both sales and meal duration. Variable StoreItems<sub>i</sub> is the arithmetic average of the store-wide number of items ordered at the beginning and at the end of check *i*, which is used to control for the workload on the kitchen. Controls include a group of categorical variables indicating the day of week, the hour, the week and the store associated with check *i* to adjust for the time/date and location factors. Note that the quadratic specification of AvgTables allows us to compute the critical points in the regression models. In particular, since

the critical point of a quadratic function of the form  $f(x) = ax^2 + bx + c$  is  $-b/(2a)$ , the critical point of, e.g.,  $\log(\text{Sales}_i)$  is expected to be  $-\alpha_1 / (2\alpha_2)$ .

Although these regression models are useful as a preliminary estimator, they may not address two potential issues:

a) Endogeneity: Sales and meal duration should be highly correlated with demand forecast. To match the forecast, managers adjust the staffing levels of servers. Staffing levels, which are the denominator of workload, should be negatively correlated with workload after we control for the demand. We control for demand either explicitly with variables, such as StoreItems, or implicitly with control variables, such as time/date/store fixed effects. For

these reasons, both sales and meal duration should affect

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b) Correlated errors: Sales and meal duration are two performance metrics. They may be simultaneously affected by an unobserved exogenous demand shock, such as a celebration of a baseball game, but Models (1.1) and (1.2) assume that errors and are uncorrelated, thus eliminating the connection of these two measures via a contemporaneous shock. We propose a simultaneous approach using 3SLS models to allow the errors to be correlated with each other.

We adopt an instrumental variable 2SLS approach (Angrist and Krueger, 1994) to address the endogeneity issue for the following reason. First, the 2SLS instrument estimator can provide consistent estimates of the dependent variables using a large sample. It is also quite robust in the presence of other estimation issues such as multicollinearity. For these reasons, the 2SLS instrument variable approach is widely used to address endogeneity issues. A valid instrumental variable should satisfy relevance and exclusion restriction assumptions. In particular, it should be uncorrelated with the error (i.e., exclusion restriction) and correlated with the endogenous regressor (i.e., relevance). In other words, the instrument should explain the outcome variable only through the endogenous regressor.

We propose two types of instruments. First, we utilize an exogenous shock in our study period: the implementation of a new staffing system at one of the restaurants. On March 21st, 2011, one of the restaurants adopted a new computer-based scheduling system, while the other four restaurants continued to rely on managers to make demand forecasts and make staffing level decisions. The management chose this particular restaurant as a pilot project to subsequently implement the software chain-wide. The sales performance of this restaurant is similar to the other four restaurants

in that they all show stable sales, thus reducing the concern of selection bias. Using historical sales data, the new software forecasts the need for servers.

We find that the system increased staffing level and reduced workload consequently by 6%, thus satisfying the relevance condition. In addition, we would expect the implementation of the software to affect meal duration and sales only through the staffing level because the system simply provides a user-friendly interface to schedule servers, perhaps with a different forecast of demand. Diners do not observe the implementation of this labor scheduling system. For these reasons, the implementation of the system should satisfy the exclusion restriction condition. Admittedly, both managers and servers in that particular restaurant may have anticipated the implementation of the new software. They may also have different emotional responses to a computerized scheduling system.

For both these reasons they might have re-adjusted their productivity, which could invalidate using the software implementation as an instrument. In order to address this potential issue, following Siebert and Zubanov (2010), we supplement our analysis using another type of instrumental variables, the lagged values of the endogenous independent variables. In particular, we construct two additional instrumental variables  $LWHRT_{TableLoad}$  and  $LWHRT_{TableLoad2}$ , i.e., one-week lagged workload in the same hour at the same store and its quadratic term. We find that the weekly lagged variables are positively correlated with the current terms, and therefore satisfy the relevance assumption. Moreover, we expect these lagged values of the endogenous variables to be exogenous because the staffing decisions from a week ago should not determine the unobserved factors for the average meal duration and sales during the current week, i.e., contemporaneous shocks. In other words, the lagged variables are not contemporaneously correlated with the disturbance, so they should satisfy the exclusion restriction assumption of a valid instrument. Admittedly, the lagged workload may not be ideal in the event of common demand shocks that are correlated over time. However, these common demand shocks are basically trends (Villas-Boas and Winer, 1999). Trends are controlled for in our models, thus lessening this potential concern.

Table 1 shows the results of check-level sales analysis. First, the coefficients of  $AvgTables2$  are consistently negative (-0.0134, -0.1293, -0.1497), supporting our hypothesis. These results suggest that variable  $AvgTables$  first concavely increases sales and then concavely decreases sales. Note that the coefficient of  $AvgTables$  is negative in the OLS model, but its sign becomes positive in the 2SLS and 3SLS models after the endogeneity issue is successfully corrected by the instruments, as expected. Interpreting the coefficients from the 3SLS, we find that the optimal workload is about  $(0.1291 / (2 \times 0.1497)) \approx 0.43$  tables above the sample mean, which is 2.16 tables. In addition, the optimal workload would have generated 2  $(0.1291 \times 0.43 - 0.1497 \times 0.43 \approx 3$  per cent) sales lift per check on average, controlling for party size and other factors. Furthermore, as expected, a larger party size is positively associated with higher sales per check.

Table 1: Impact of check-level workload AvgTables on log(Sales)

	OLS	2SLS	3SLS
<i>AvgTables</i>	-0.0031** (0.0010)	0.0942*** (0.0189)	0.1291*** (0.0090)
<i>AvgTables</i> <sup>2</sup>	-0.0134*** (0.0005)	-0.1293*** (0.0296)	-0.1497*** (0.0291)
<i>PartySize</i>	0.2226*** (0.0008)	0.2116*** (0.0039)	0.2109*** (0.0040)
Controls	Yes	Yes	Yes
Hypothesis supported	H1	H1	H1
Observations	190,799	185,545	185,545
Prob>Chi-sq	<0.001	<0.001	<0.001

1. Standard errors are shown in the parentheses.

2. \*: p-value  $\geq$  0.05, \*\*: p-value  $\geq$  0.01, \*\*\*: p-value  $\geq$  0.001

Table 2 presents the results of check-level meal duration analysis. The coefficients of AvgTables2 are consistently negative (-0.0111, -0.0846, -0.0987), suggesting that AvgTables initially concavely increases the meal duration of each check and then concavely decreases the meal duration, consistent with H2. The coefficient of AvgTables is significant and positive in OLS, while the estimated coefficients are statistically undifferentiated from zero in both 2SLS and 3SLS models. The instruments may correct for the expected upward bias of AvgTables. In addition, we anticipate that the instruments will increase standard errors of the estimates because they reduce the variation of the  $i$  AvgTables. In sum, we interpret the results as a suggestion that meal duration first concavely increases with the rise of workload and then decreases, supporting H2.

Table 2: Impact of check-level workload AvgTables on log(MealDuration)

	OLS	2SLS	3SLS
<i>AvgTables</i>	0.0545*** (0.0010)	0.0186 (0.0364)	0.0444 (0.0343)
<i>AvgTables</i> <sup>2</sup>	-0.0111*** (0.0005)	-0.0846* (0.0333)	-0.0987** (0.0326)
<i>PartySize</i>	0.2226*** (0.0008)	0.2116*** (0.0039)	0.0103** (0.0037)
<i>StoreItems</i>	-0.0002*** (0.0000)	0.0002 (0.0002)	-0.0000 (0.0002)
Controls	Yes	Yes	Yes
Hypothesis supported	H2	H2	H2
Observations	190,799	185,545	185,545
Prob>Chi-sq	<0.001	<0.001	<0.001

1. Standard errors are shown in the parentheses.

2. \*: p-value  $\leq$  0.05, \*\*: p-value  $\leq$  0.01, \*\*\*: p-value  $\leq$  0.001

## ROBUSTNESS CHECKS

Restaurants tend to schedule servers on an hourly basis, so we aggregate our data at the hourly level. Examining these hourly data provides not only a robustness check of our hypothesis testing but also some easily comprehensible staffing insights for restaurant managers. We operationalize dependent variables  $HRAvgSales_{tk}$  and  $HRAvgMealDuration_{tk}$  to reflect the average sales and meal duration per check for all the checks that started during hour  $t$  at store  $k$ . We define workload  $HRTableLoad$  as hourly tables per server, namely the total number of tables/parties that started in a particular hour divided by the number of servers. Similar to check-level analysis, we center  $HRTableLoad$  and  $HRTableLoad2$  around their means to reduce collinearity. We specify our models as follows:

$$\log(HRAvgSales_{tk}) = \alpha_0 + \alpha_1 HRTableLoad_{tk} + \alpha_2 HRTableLoad_{tk}^2 + \alpha_3 HRChecks_{tk} + \alpha_4 LagHRTableLoad_{tk} + \alpha_5 Controls_{tk} + \varepsilon_{tk} \quad (1.3)$$

$$\log(\text{HRAvgMealDuration}_{tk}) = \beta_0 + \beta_1 \text{HRTTableLoad}_{tk} + \beta_2 \text{HRTTableLoad}_{tk}^2 + \beta_3 \text{HRChecks}_{tk} + \beta_4 \text{LagHRTTableLoad}_{tk} + \beta_5 \text{Controls}_{tk} + \xi_{tk}.$$

(1.4)

In these models, control variable HRCheckstk is the total number of checks/parties that started during hour t at store k. Another variable LagHRTTableLoadtk is the workload that happened in the previous hour, i.e., HRTTableLoad(t-1)k. Controls include the same set of categorical control variables as in the check-level analysis. We conduct 3SLS estimation using the same instruments as those used in the check-level analysis, namely the software implementation, one-week lagged hourly workload in terms of tables per server and its quadratic terms. As an alternative workload measure, we then use hourly diners per server, HRDinerLoad, its quadratic term HRDinerLoad2 and its lagged hourly load LagHRDinerLoad, to substitute HRTTableLoad, its quadratic term and its lagged hourly load in Models (1.3) and (1.4).

Among our findings, in estimating log(HRAvgSales), the coefficients of HRTTableLoad2 and HRDinerLoad2 are both significant and negative (-0.3906, -0.0412). The coefficients of HRTTableLoad and HRDinerLoad are both significant and positive (0.5561, 0.1498). These are qualitatively consistent with our check-level results - workload may have an inverted-U shaped relationship with sales per check, and the optimal workload to maximize sales is greater than the sample mean. Using these estimated coefficients, we compute that the optimal HRTTableLoad is about 0.71 tables/server above the sample mean (1.84 tables/server), and the optimal HRDinerLoad is about 1.81 diners/server above the sample mean (4.3 diners/server). These two optimal points seem to be consistent with each other because 2.6 diners on average sit at one table in our sample.

In addition, interpreting the estimated coefficients, we find that the optimal HRTTableLoad would have increased HRAvgSales by  $2 \cdot 0.71 \cdot 0.3906$  ( $0.5561 \times 0.71^2 \approx 20$  per cent), while the optimal HRDinerLoad would have increased HRAvgSales by  $2 \cdot (0.1498 \times 1.8 - 0.0412 \times 1.8^2) \approx 13$  per cent). In estimating log(HRAvgMealDuration), the coefficients of HRTTableLoad2 and HRDinerLoad2 are both significant and negative (-0.2066, -0.0214), suggesting that workload initially concavely increases the average meal duration of each check and then concavely decreases the meal duration. Similar to our check-level results, the linear terms of both workload measures are statistically insignificant at 0.05 level.

So far, we find that meal duration drops after an inflection point. This meal duration reduction may be due to servers' being more prompt and/or selling fewer items. To have a better understanding of these sources of meal duration reduction, we first control the impact of items sold during a check on meal duration. We further examine the impact of items sold on sales to provide insights about the marginal effects of cross-selling and up-selling activities, which are important for training servers. In particular, we first insert a control variable Items, the number of sold items

associated with check  $i$ , to both Model (1.1) and Model (1.2) and use the 3SLS estimation with the same set of instruments employed in the main analysis. It seems reasonable to assume that controlling for Items leads to isolating the cross-selling effect. Finally, we estimate the impact of workload on the number of items sold using a 3SLS strategy to demonstrate that workload also has an inverted-U shaped relationship on the number of items sold, which provides an indirect evidence that servers may reduce meal duration, or “rushing”, by selling fewer items in addition to being more prompt. A similar empirical result is found in Batt and Terwiesch (2012), who find that doctors order fewer diagnostic tests to reduce service time.

In estimating  $\log(\text{MealDuration})$  conditioned on the number of items sold, the coefficient of AvgTables2 is still significant and negative (-0.0718), which suggests that servers may become more prompt after the workload surpasses the threshold of sample mean. In estimating  $\log(\text{Sales})$  conditioned on the number of items sold, we notice that the coefficient of AvgTables2 is still negative (-0.067), while the coefficient of AvgTables is positive (0.049), suggesting that workload even has an inverted-U shaped relationship with servers’ up-selling behavior. Interpreting the coefficients, we find that the inflection point is about 0.36 tables above the sample mean, which is slightly below 0.43 tables (Table 1), the inflection point of the combined sales effects, which consists of both up-selling and crossselling effort.

We further compute that the up-selling effort would contribute to about  $2 \left( (0.049 \times 0.43 - 0.067 \times 0.43^2) / 3\% \right) \approx 29$  per cent) of the total sales lift from the optimal workload (0.43 tables). Finally, in estimating Items, the coefficients of AvgTables2 is negative (-1.089), while the coefficient of AvgTables is positive (1.041), which suggests that workload also has an inverted-U shaped relationship with servers’ crossselling effort. In other words, as workload increases, servers first sell more items, but then sell fewer items as workload continues increasing.

Since consuming more items prolongs the meal duration (note the coefficient of Items is positive in estimating  $\log(\text{MealDuration})$ ), the inverted-U shaped relationship between Items and workload provides an indirect evidence that server may reduce meal duration, or “rush”, by selling fewer items in addition to being simply more prompt.

## MANAGERIAL INSIGHTS AND CONCLUDING REMARKS

Our study underscores several insights for restaurant managers facing the increasing challenges and pressures of managing a diverse workforce in a highly demanding work environment. Making optimal staffing decisions is critical for restaurants to achieve better performance. Perhaps the most counter-intuitive finding of our study is that reducing the staffing level may be necessary to improve sales. We find that the optimal workload for sales per check is approximately 0.43 tables per server above the current sample mean, controlling for the demand. The average tables/server ratio in our sample is currently on average equal to 2.16. Using the estimates in the 3SLS estimation of  $\log(\text{Sales})$ , we project that optimal staffing will directly

increase the average sales by approximately 3 per cent. The hourly-level analysis suggests that the optimal workload is 0.71 tables/server above the sample mean, which may increase average hourly sales by 20 per cent.

To stay on the conservative side, we advocate the check-level workload measure and use it in our main analysis. The commonly-used hourly workload measure implicitly assumes that the workload is distributed evenly across servers, which is rather simplistic and unrealistic. In addition, although the estimated sales lift in check-level analysis is about 3 per cent, much less than 20 per cent in the hourly analysis, it is still very significant in a high fixed-cost industry like restaurants. In this type of industry, profits increase even more if sales can increase by 3 per cent at no additional cost, let alone labor cost reduction due to optimal workload adjustment. Our estimated sales lift is in line with Mani et al. (2011), who estimated that an optimal staffing level could improve average store profitability by 3.8% to 5.9% in a retail setting. Finally, firms nowadays have access to big data, such as new Human Resource Management software, which allow them to analyze the impact of workload at a more granular level. The new software is also capable of monitoring the workload of servers in real time, which facilitates the acceptance of more detailed managerial implication. Our check-level workload measure provides a first step to utilize the big operational data to understand the impact of workload.

In addition, we re-estimate the sales impact after controlling for the number of sold items using 3SLS estimation to categorize the sales lift into up-selling and cross-selling. We find that up-selling effort can contribute to about 29 per cent of the total sales lift from the optimal workload. In other words, cross-selling effort can contribute to the rest 71 per cent of the sales lift.

Furthermore, we find that restaurants tend to over-staff by on average by 17 per cent. In other words, reducing the staffing level to achieve the optimum can save about 17% of current labor costs. Of course, our model does not allow us to make an entirely accurate estimate of the potential improvement from optimal staffing (e.g., further labor-related non-wage costs), nor can the restaurants perfectly forecast demand. We nevertheless anticipate a significant sales lift and cost saving from optimal staffing because of the benefits from correcting both under-staffing and over-staffing errors.

Most studies on staffing decisions in services tend to overlook employees' adaptive behavior to work environments. Our empirical findings contribute to the existing analytical models on staffing in two aspects. First, the non-linearity of the meal duration impact enriches the analytical research on staffing that considers workload-dependent productivity. Hasija et al. (2010) have written an important and timely paper on the linear speeding-up behavior induced by workload to estimate a call center's capacity. Future research may further assume non-linear productivity induced by workload. Less adequate is their assumption that the workload does not affect service quality. Our finding provides empirical evidence to support existing research studying the effect of workload on service quality (see e.g., Anand et al. 2011). Higher sales not only benefit the restaurant's bottom

line but also may arguably reflect higher service quality. Understanding the trade-off between productivity and quality induced by workload may strengthen the analytical models on staffing.

## REFERENCES

Anand, K.S., M.F. Pac, S. Veeraraghavan. (2011). Quality-speed conundrum: Tradeoffs in customer-intensive services. *Management Science* 57(1) 40-56.

Angrist, J., A.B. Krueger. (1994). Why do world war II veterans earn more than nonveterans? *Journal of Labor Economics* 12(1) 74-97.

Batt, R.J., C. Terwiesch. 2012. Doctors under load: An empirical study of state-dependent service times in emergency care. Working Paper.

Boudreau, J.W., W. Hopp, J.O. McClain, L.J. Thomas. (2003). On the interface between Operations and human resources management. *Manufacturing & Service Operations Management* 5(3) 179-202.

Brown, L., N. Gans, A. Mandelbaum, A. Sakov, H. Shen, S. Zeltyn, L. Zhao. (2005). Statistical analysis of a telephone call center. *Journal of the American Statistical Association* 100(469) 36-50.

Deci, E.L., J.P. Connell, R.M. Ryan. (1989). Self-determination in a work organization. *Journal of Applied Psychology* 74(4) 580.

Fitzsimmons, J.A., G.B. Maurer. (1991). A walk-through audit to improve restaurant performance. *The Cornell Hotel and Restaurant Administration Quarterly* 31(4) 94-99.

Gans, N., G. Koole, A. Mandelbaum. (2003). Telephone call centers: Tutorial, review, and Research prospects. *Manufacturing and Service Operations Management* 5(2) 79-141.

Hasija, S., E. Pinker, R.A. Shumsky. (2010). Work expands to fill the time available: Capacity estimation and staffing under parkinson's law. *Manufacturing & Service Operations Management* 12(1) 1-18.

Kc, D.S., C. Terwiesch. (2009). Impact of workload on service time and patient safety: An econometric analysis of hospital operations. *Management Science* 55(9) 1486-1498.

Kimes, S.E., S.K.A. Robson. (2004). The impact of restaurant table characteristics on meal duration and spending. *Cornell Hotel and Restaurant Administration Quarterly* 45(4) 333.1

Kimes, S.E., G.M. Thompson. (2004). Restaurant revenue management at Chevys: determining the best table mix. *Decision Sciences* 35(3) 371-392.  
Mani, V., S. Kesavan, J.M. Swaminathan. (2011). Understanding in retail stores: Drivers and consequences. Working Paper.

Mill, R. (2004). Restaurant management: Customers, operations, and employees.

Oliva, R., J.D. Sterman. (2001). Cutting corners and working overtime: Quality erosion in the service industry. *Management Science* 894-914.

Perdikaki, O., S. Kesavan, J.M. Swaminathan. (2011). Effect of traffic on sales and conversion rates of retail stores. Working Paper.

Schultz, K.L., D.C. Juran, J.W. Boudreau, J.O. McClain, L.J. Thomas. (1998). Modeling and worker motivation in jit production systems. *Management Science* 1595-1607.

Siebert, W.S., N. Zubanov. (2010). Management economics in a large retail company. *Management Science* 56(8) 1398-1414.

Sulek, J.M., R.L. Hensley. (2004). The relative importance of food, atmosphere, and fairness of wait. *Cornell Hotel and Restaurant Administration Quarterly* 45(3) 235.

Villas-Boas, J.M., R.S. Winer. (1999). Endogeneity in brand choice models. *Management Science* 1324-1338.

Zellner, A., H. Theil. (1962). Three-stage least squares: simultaneous estimation of simultaneous equations. *Econometrica* 54-78.

Zenios, S., B. He., F. Dexter., A. Macario. (2011). The timing of staffing decisions in hospital operating rooms: Incorporating workload heterogeneity into the newsvendor problem. *Manufacturing & Service Operations Management* (Forthcoming).

# INTEGRATED INNOVATION MANAGEMENT SYSTEM

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## ABSTRACT

The purpose of this paper is to present how a supplier of product & services can link innovation ideas, created in the customer interface and with customers in the customer's business processes, with the supplier's internal product & services development process, and thereby increase the number of innovation ideas that becomes new and refined products & services. This paper presents a method, roles and targets and measures for how to link innovation ideas created in the customer interface side with the supplier's internal product & service development process, specifically in the telecom industry, but can be used in further studies in other industries as the method is aimed to be generic. The content of this paper is a result from practical experiences and not a result of a research study in the subject.

## INTRODUCTION

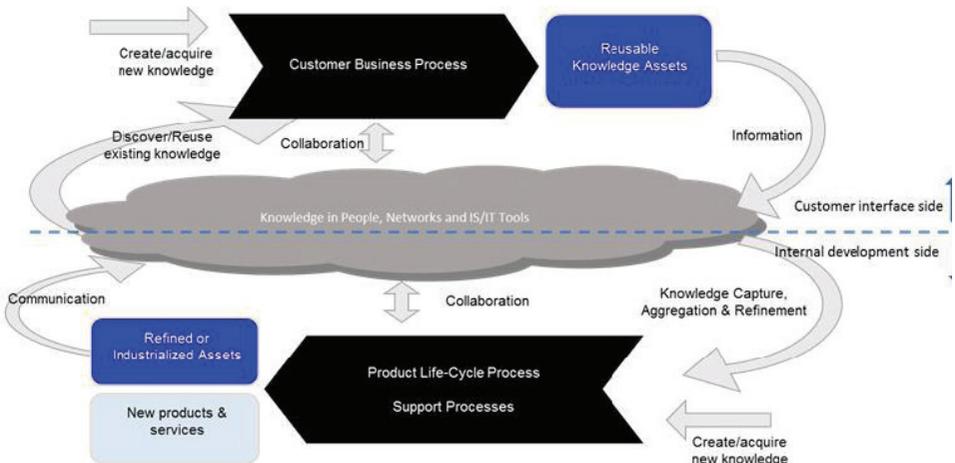
The telecom industry, both equipment manufactures and operators, is struggling to achieve financial growth, e.g. Ericsson (Ericsson, 2012) and TeliaSonera (TeliaSonera, 2012). Finding new sources of revenue and capitalize on new innovations is a challenge in this market. One source of innovations is in the customer interface, an example is when a telecom operator provides communications services to a large enterprise customer. It starts with a joint delivery project where both the customer and the operator work closely together and innovation ideas are generated by project members on both sides, ideas spanning everything from changed business models to new products and services. This customer project example takes place in the customer interface. At the same time a new communication service is being developed at the telecom operator in an internal development project and their ideas is based on market knowledge, general customer insights and internal capabilities. What if the ideas and innovations generated in the customer interface could be used in the internal development projects, both as continuous input to on-going development projects and as basis for new. In this paper I will present what needs to be in place to achieve this.

## INTEGRATED INNOVATION MANAGEMENT SYSTEM

The method is based on that knowledge created in the customer interface first turns into specific information types, adapted for internal development and for reuse in new customer projects. As value of information is degraded by time (Hackathorn, 2004) it is important that the information as fast as possible is turned into new knowledge in the internal development projects and customer projects. Another aspect in this method is that roles, both on the customer interface side and on the internal development side, is clearly described with the responsibilities and authorities needed. This method must be integrated into one system, an integrated innovation

management system, to become efficient and capture, refine and industrialize innovation ideas. To design this system the critical area to develop is the interface and area between the customer interface side and the internal development side.

Figure 1: Describing the integrated innovation management system



### Turning Information to Knowledge

New information is discovered in the customer business process during a joint customer-supplier project. The supplier turns this information into knowledge assets according to information types defined for both reuse purposes in the customer interface side and for development purposes in the internal development side. These knowledge assets are then uploaded in a Knowledge Management System (Nonaka, 1994), accessible for pre-defined role with responsibility to manage the knowledge assets and ensuring that these are matched and communicated to the appropriate unit within the supplier organisation.

### Roles

There are two main stakeholders for these knowledge assets.

- Owners of the Product Life-Cycle Processes, which can be Product/Service Managers or Business Managers for a specific product/service or business area.
- Owners of the the Customer interface, which can be Sales Managers, Consultant Managers or Service Managers.

A critical role in the integrated system is the Knowledge Manager. In my experience the Knowledge Manager has been a role mainly for the customer interface side, where experience from completed customer projects has been reused for new customer projects and kept within the customer project community. I would propose to get maximum use of the experience it is essential that the information discovered during the

customer project is also continuously used in internal development projects.

### Targets and measures

To achieve this the information is turned into knowledge assets by the knowledge managers in formats and language that the different receiving stakeholders can easily understand and quickly adapt and put in use in their processes, this is done by carefully designing the information types needed for the different purposes and stakeholders. As value of information is degraded by time (Hackathorn, 2004), speed is of essence and the knowledge manager role is therefore not only to manage the knowledge assets and specify the information types to be used, but also to work proactively with both the owners of the product life-cycle process and the stakeholders on the customer interface side. The proactive work consists of frequent feedback to verify that the information types matches the knowledge assets used in customer projects and development projects. The knowledge manager proactively communicates new information discovered and in which new knowledge assets this new information exists. To be able to continuously develop the information types and knowledge asset structures the knowledge manager defines together with the stakeholders the relevant statistics and Key Performance Indicators (Neely et al, 1995) needed to set targets and measure how well;

- Information types has been turned into knowledge assets.
- Knowledge assets has been used in both new customer projects and new development projects.
- The value of the knowledge assets when used.
- The time from new information discovered until turned into a knowledge asset.
- The time from new knowledge asset to been used in new customer project or development project.

### REFERENCES

- Ericsson AB, (2012), "Ericsson Third Quarter Report 2012", Sweden  
TeliaSonera AB, (2012), "TeliaSonera Interim Report January-September 2012", Sweden
- Hackathorn, R., (2004), "The bi-watch: real-time to real value", DM Review  
Nonaka, I. (1994). A dynamic theory of organizational knowledge creation, *Organization science*, 5(1), 14-37
- Neely, A., Gregory, M. and Platts, K., (1995). Performance measurement system design, *International Journal of Operations & Productions Management*, 25(12), 80-116

# INTERACTING IN SOCIAL COMMUNITIES FOR SOCIAL ISSUES: THE CO-CREATION PERSPECTIVE

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## ABSTRACT

This article aims to analyse value co-creation in the context of ethical consumption extending the focus on customers and their relational context. Through a phenomenological study of Altromercato community the paper identifies three different categories of customer named as “trend followers”, “believers” and “supporters”. Each category depicts the profile of participants to the community by their different engagement and awareness. Each profile represents a different path leading customers to co-creation.

Keywords: co-creation, communities, values

## INTRODUCTION

Communities live thanks to the continuous interactions among their members (Cowe and Williams, 2001). McAlexander et al. (2002) show how brands are used to tie relationships among customers in order to create consumption experiences and communities and Amine and Sitz (2004) also address membership feelings between and within individuals and groups.

This relational consumption experience of brand community under different label and conceptualization is on the agenda of some scholars within ethical consumption research stream. Brinkmann and Peattie (2008) described ethical communities as contexts where collective values and shared experiences emerge. They defined ethical shopping based on a set of multiple reasons including evaluation of ethical investing, social networking as well as experiencing other benefits of customer participation to a group. Similarly Cherrier (2007) suggested ethical consumers as motivated by social needs: acting in ethical way they consider also the opportunity to create a sense of identity and membership in a group. Notwithstanding these advancements, the social dimension within tradition of ethical consumption literature is still narrowed to the consideration of the effect of social needs on the motivations in buying ethical product or services.

Some exceptions are provided by recent studies (Abela and Murphy 2008; Sebastiani et al., 2012) arose within the tradition of service research (Vargo and Lusch 2004, 2008). These studies are largely inspired by the value co-creation notion as conceptualised in the works of Vargo and Lusch (2006). The notion of value as mutually and reciprocally determined and co-created by consumers in interaction with firms (Vargo and Lusch, 2008) provides a more fertile ground for ethical marketing since its nature is inherently both customer focused and relational centric (Abela and Murphy 2008). In line with SDL studies, some first researches in ethics domain borrow

from the value-in-context (Vargo, Chandler, 2011) concepts to analyse the networking dimension in ethical consumption. However social and collective focus in ethics remain at a more general level. The studies consider the role of values as a sort of collective glue aligning the different customer's interests to a sort of collective aim but the way in which the collective dimension affects customer's value co-creation is still unexplored.

This article moves from this gap. It aims to analyze value co-creation in the context of ethical consumption extending the focus on customer and its relational context. In the remainder of the paper, the authors provide a review of value co-creation and focus on the aspect shaping their role in community and, more into detail, in an ethical context. After presenting the research method, the context, and the findings, the paper ends with the main discussion and implications.

## CONSUMERS AND CO-CREATION

Value co-creation framework is part of the shift towards a new idea of consumer starting "from passive audience" to powerful players actively engaged (Prahalad and Ramaswamy, 2004). The value is the result of the interaction among firms and customer to a process of resources integration defined value co-creation (Vargo and Lusch, 2004, 2009). The customer activities in his interactive efforts need to be assumed as the starting point to introduce the co-creation understating as well as the customer everyday practices. The further notion of value-in-context are used by Chandler and Vargo (2011) to claim the space and the time in which resources are exchanged among lots of different actors in order to obtain value. Contexts are where value creation happens thanks to the availability, integration and use of a different combination of resources from multiple sources (Ng et al., 2012).

Drawing from these studies we find customer interactions in context introducing to the important consideration of the main dimensions of engagement and awareness with reference to customer's activities and behaviour. These dimensions are more and more important nowadays, as consumers are sharper and empowered than before (Prahalad and Ramaswamy, 2004) also thanks to experience and to a wider set of knowledge provided with new technologies (Berthon et al., 2008). In the following paragraphs we provide a brief detail of the meaning of engagement and awareness as used in the marketing literature and the way in which they are proposed in more recent studies to address the issues of co-creation.

### The Engagement

In the marketing tradition many studies focused on the investigation of engagement mainly in relation with - the brand - including also consideration about the wider context of social relationships taking part in a community. Studies on virtual brand communities flourished in the last years investigated community engagement as intrinsic motivation of consumers to interact and cooperate with community members (Algesheim et al., 2005) One

of the main motivations about participation in virtual communities was to exchange information (Ridings, Gefen, 2004) among members in order to interact, as it was stressed the sense of duty of the individual to the community as a whole (Bagozzi, Dholakia, 2002, Muñiz, O'Guinn, 2001). More recently studies look at engagement by the wider perspective that includes consideration about value and the multidimensionality of aspects to be included in the understanding of engagement.

Hollebeck (2011) defines customer engagement with the brand as the mental state of motivation to make, depending on the context, characterized by specific levels of cognitive activities, emotional and behavioural interaction with the brand. Engagement with the brand online spans the dimensions of cognitive processing, instrumental value (usefulness and relevance) and experiential value (emotional congruence with the scheme of narrative entities found in computer-mediated).

Some authors (Brodie et al., 2011, van Doorn et al., 2010) explored in depth the conceptual roots of 'customer engagement' (CE) by drawing on the S-D logic. According to the authors many of the main assumption of S-D logic such as customers' interaction, co-creation with others and networked service relationships has a particular relevance for determining the conceptual foundations underlying the emerging customer engagement concept. The Vargo and Lusch's (2009) put in focus the existence of specific 'context interactive experiences' that according to Brodie et al. (2011) represent the key hallmark of engagement concepts. By in-depth review of marketing literature Brodie et al. (2011) identified three main engagement dimensions namely cognitive, emotional and behavioural. More into detail they suggested extending the engagement conceptualization beyond the 'involvement' concept which reflects an individual's specific level of interest and/or personal relevance. In this sense other relational concepts such as participation, involvement as well as commitment are indexed as antecedents and/or consequences of engagement. The engagement instead encompasses a proactive, interactive and customer relationship experience. This experience occurs within specific sets of context-dependent conditions generating different customer engagement levels (Mollen and Wilson, 2010).

## The Awareness

Awareness means "knowing that something exists and thinking it is important", and this concept has the same and even wider meaning in value creation framework. According to Vargo and Lusch's FP 10, "Value is always uniquely and phenomenologically determined by the beneficiary" and these propositions imply important considerations about awareness and customer's consciousness in their activities and behaviours.

In particular some authors, focusing on the more and more active and collaborative consumer role (Prahalad and Ramaswamy, 2004; Bendapudi and Leone, 2003; Mooney and Rollins, 2008), dealt with the issue of the consumer contribution trying to give a reading from the aspect of customer awareness.

From the analysis of the existent literature, what has emerged is that there is not a shared definition of consumer awareness. In detail users are defined

as “more or less aware” because activities are performed automatically (Schatzki, 1996), while other authors reckon users as unaware. In particular some authors consider unawareness as the experience shaped during the activities (Korkman, 2006) especially if a firm involves them or if they are involved to support other users and because of belongingness to groups. Andreu et al. (2009) argue that “From the customers’ point of view, they seem hardly aware of their important role in the co-creation of value, believing that this is the retailer’s business” and they also believe that the unawareness represents the main obstacle to the value creation process. There are also authors deem users as totally aware, as they are driven by self-promotion, viz. the willingness to acquire a role, a condition (Milner, 2009) or even to feel satisfied not only on personal level but also in a social dimension (Cova and Dalli, 2009).

As Sebastiani et al. (2012) pointed out nowadays more consumers are aware of their consumption choices’ impact, they feel to be able to drive “the market towards environmental and social compatibility”.

## RESEARCH AIM AND METHODOLOGY

Drawing from value-co-creation perspective as proposed by Vargo and Lusch (2004, 2009) we aimed at deepen insights on interaction in a social ethical community and its link with value co-creation. More into detail our aims are to unravel the core mechanism of the whole process of value co-creation in ethical consumption putting in focus the individual customer’s perspective and how they experience and perceive their relationships in ethical consumption context. We focus on the engagement and awareness dimensions to understand and interpret characteristics and dynamics of customer’s interactions in the perspective of ethical customer’s community.

### Method

We investigated consumer of ethical brand *Altromercato*, the first Fair Trade central import in Italy and the second in the world. *Altromercato* products come from underdeveloped countries, keeping direct trade relations with organizations of farmers and craftsmen, ensuring them fair prices, long-term and transparent relationship, interest-free pre-financing.

With the aim of understanding people experience in *Altromercato* community we chose a phenomenological approach, as it gives us the chance to gain knowledge on everyday experiences (Merleau-Ponty, 1962) and in particular about the way people interact with the world they live (Lanigan, 1979). Our previous insights about ethical consumption context were too abundant to gain a focus about social interactions for social issues, therefore we decided to apply a qualitative approach on informants to yield understanding. The perspective of the research was totally designed around informants perception of their role in the community and in a more general way of the interaction in an ethical context. Phenomenology can be the right method to complement our knowledge on ethics from theory (Orbe, 2000) and it has produced interesting research results in this field in the past (Chikudate, 2000). Questions about lived experiences on issues about ethics represented the starting point to use the well established research model proposed in literature by Lanigan (1979) and Orbe (2000). This model consists of three steps, namely (a) the collection of descriptions

on lived experiences, (b) the rebuilding of information in themes, and (c) the interpretation of the emerging themes.

Phenomenology aims to collect people descriptions of their lived experience, so direct interviews are the best way to reach this purpose. The usage of informants' own words (Anderson and Jack, 1991) is the most proper way to acquire meaningful insights. After performing interviews we can deduct themes from gathered data in the so called thematization (Orbe, 2000) performed by the authors together by discussing the transcripts of all the interviews. Then a description of social interactions in a social context can be performed on the basis of the arising themes.

### Data analysis and findings

We conducted 23 interviews with the likers of Altromercato Community. We selected 20 among them. The number of interviews analysed is in line with methodological suggestions (Weller, 1987).

As phenomenological approach does not aim to describe individuals' as a stand-alone but as part of a phenomenon, we grouped them in three categories, namely (a) follower, (b) believer, and trend follower (c). In the next lines we will describe each category in detail with reference to the themes emerging from the rebuilding of information, as revealed in advance when presenting the methodology. The usage of categorisation depending on themes emerged from data analysis is consistent with suggestions about the interpretative phenomenological analysis frame provided by Kempster and Cope, (2010). In order to describe our choices in terms of themes we will quote some of the most relevant information arising from our interviews set.

## FINDINGS

### The themes

Thanks to the similarity among descriptions that our interviewees gave us about their relationship with Altromercato brand, we achieved some more insights about the themes we identified in literature: engagement and awareness.

Moreover we acquired some more knowledge about two other themes emerging from the information provided by the informants, viz. the meaning they associate to the brand and the sharing activities they perform inside the community context they shape. We briefly describe the results of our thematization before introducing the profiles emerging by crossing these themes.

### Engagement

Altromercato consumers establish relationship with the other members of the community, engaging multiple level of experience. The ways in which they interact with the brand depend on the resources they decide to integrate. We can find the consumer just buying Altromercato products to feel himself satisfied and coherent with his/her own values. As one of the

interview told us:

Buying these product I feel coherent with my values and, at the same time, I know that paying a higher price, we help less developed countries to get out from the state of exploitation in which they are (interview n. 10). These interviewees decide to integrate more resources spending more time and commitment: participating in events held by the organization, spreading information about fair trade among friends and family. One of them declared:

*I try to be actively engaged in interaction with my friends and family and in involving them in discussions regarding ethical issues that they fill acquainted (interview N. 7).*

Some of the informants state to integrate a lot of resources: they buy products, participate in events, spread information and consider themselves as a guide, so they want to provide advices and make available their experiences and knowledge to other people in order to contribute to the dissemination of fair trade core values. Some of these kinds of respondents told us:

*Thanks to the involvement of more and more people, Altromercato can favour the diffusion of ethical standards and give us the opportunity to share our experience with other people. I feel that my commitment and involvement are very high because here I give advice and promote Fair trade basic values (interview n.15).*

## Awareness

The informants revealed some of the reasons encouraging their participation, namely the motivations inspiring their activities in Altromercato contexts. First of all they know and share fair trade principles and core values. They define themselves as “satisfied and pleased” about Altromercato offerings and other initiatives.

*These products have a double purpose: to produce benefits for myself and for the producers. These products have a high quality and they help to promote economic growth in less developed countries” (interview n.16).*

Lots of them act as they declare to have a specific mission in sharing their experience and skills with others because they can help new consumers.

*Many friends of mine were doubtful about Altromercato. They buy only one or few products. I supported them towards a more social involvement and this is my main task, even if it requires a lot of energy (interview n.10).*

Moreover informants are interested to the products and initiatives as ways to convey more responsible behaviour and to contribute in affirming the importance of social values:

*I believe that Altromercato contribute a lot to the diffusion of ethical standards and social behavioural model. feel coherent and happy to*

*contribute to affirm this model by buying their products and participating in their initiatives (interview n. 22).*

## Sharing

Sharing is one more important theme emerging from the interviews. It can be considered as dependent from engagement and awareness. In detail it consists of a series of actions performed by people in order to express their engagement and because they are aware of what they can do by sharing.

The objects of the sharing are several, like information about products, commentaries about experiences, initiatives, proposal of ideas and so on. Moreover the respondents report to interact for a feeling of belongingness to a group sharing the same interests. This perception leads to the desire to develop a wider networking interaction to fill a gap they perceive about Altromercato experience spreading.

*More informations are needed, because in the stores promotion as to what products are is not enough; Information sharing is needed, also through new media and tools in order to help existing and upcoming consumers in a deeper understanding of what Altromercato mission is (interview n. 9)*

## Brand meaning

The interaction between informants and the community is built around the brand. Altromercato brand is directly connected to Fair Trade logic and association. This element has to be considered as linked to engagement and awareness, as people participate if they perceive the importance of this element. In fact every interviewee refers to their own values to justify their behaviour about Altromercato and its community. They have ideas and perceptions about the brand; in detail it leads to a concept of quality goods, proved interest in ethics' issues, and collective activities to support other people.

*Altromercato has a standing as it is part of a bigger and relevant consortium. This is a crucial element in my relation with this context (interview n. 20)*

## The profiles

As introduced above, we defined three profiles (a) trend followers, (b) believers, and (c) supporters and in this part we will present the behaviour of people inside the community with a detail on the way they are engaged in this social context and on the motivations acting as drivers of their actions. Then the topics of sharing and brand meaning will be helpful to highlight differences among the three emerging profiles.

### The "Trend followers"

We defined "trend follower" to indicate who only buys Altromercato products and who is interested in fair trade "for fashion". Their engagement with Altromercato is basically conceived in a buying process as they perceive

this relation as a way to acquire high quality products. By the way they complain about the high price and it sometimes deter them from buying.

This statement can be confirmed as they occasionally consume AM products and they are not focused on the benefits achievable through Altromercato contexts' activities. This is way they perceive the brand as an expression of quality more than something connected to ethics. So the brand embeds the idea of quality products with an ethical content, acting as a factor encouraging buying. They spend little time in spreading information and sharing experiences and knowledge with others; they do not approach these products or initiatives spontaneously, but usually they are influenced or tempted by other people close to them. We can describe their behaviour as a buying process determined by the belongingness to a group, even if they do not share the wide range of motivations emerging inside the group itself.

### The "Believers"

The "believers" are people who trust in fair trade and in Altromercato but for various reasons their engagement just depends on the integration of some kind of resources in their relationship with the brand. Believers show their interest not only buying Am products, but also promoting the fair trade cause where it is possible, viz. in family, among friends. The activities they perform in Altromercato contexts are just occasional buyings and the research and sharing information. They do not use lots of resources, as they have a poor knowledge, even because they can spend just few times. But they are fully aware of how important can be to perform activities together with others in this context, because they state benefits for other people from other countries is the most important aim pursued by the organization. Information sharing is considered as important and they figure it out as a way to involve people about ethics' issues. By the way the sharing is not so detailed because of the tight set of information they own.

Moreover they are aware that through their deeper engagement could favour the spread of the fair trade phenomenon but, with regret, they declare to spend not enough time especially in interacting and spreading the fair trade core values because of the lack of time for the interaction in general or the geographical distance from the shops. Their awareness is empowered by the meaning they associate to the brand, as it is considered relevant for everyone interested in ethics' issues and as acting in order to involve the community, even the ones spending few minutes in interacting, just like them.

### The "Supporters"

The supporters deeply share Altromercato values and buy its products; in addition they interact with other people in different ways: in the shops, on social networks, spreading information. They are aware of their role as supporters of the fair trade and Altromercato core values, so they spend a lot of time in promoting products, initiatives and also into explaining to other people why they should choose Altromercato and what there is behind every kind of product or event.

This category groups people spending a lot of resources in their relationship

with Altromercato community: money, time, information, knowledge, values, and so on. They consider themselves as a guide for other people, so they are engaged in providing information (both online and offline) about products, events, fair trade with the only purpose of contributing to the growth of fair trade phenomenon.

The supporters firmly believe in the driving force of interaction to disseminate values and to achieve the main fair trade aims. Respondents in this category are fascinated by what they perceive through Altromercato brand and they see it as a guide in doing something in line with their beliefs.

## DISCUSSION AND CONCLUSION

The paper aims to unravel the core mechanism of the process of value co-creation in ethical community focusing on the individual customers perspective and how they experience and perceive their interactions in ethical consumption context.

By drawing from the conceptualization of customer as value co-creator we introduce two essential features in understanding co-creation in ethical context: the engagement and the awareness.

These two features are explicitly discussed as mainly themes by Altromercato informants in describing their interaction within ethics communities. The way the customers chose to interact and integrate their resources emerges from three different categories that allow us to depict three main profiles of customers: trend followers, supporters, believers. Each of these profiles show different practices that customers use to be engaged and aware as well as provide more insights on the sharing and brand meaning as categories to be added in the analysis of customer co-creation activities. All of the themes and the ways they are combined one each other represent different paths leading customer to value co-creation.

For all customers the value co-creation processes are highly influenced by context of interaction they lived. This involves simultaneously customers, firms and community mutually influencing each others. In accordance with Brodie et al. (2011) our results provide the customer's engagement state in ethical community as a result of a wide interactive experience, including consideration about global customer's value configuration. In addition our results provide a more in depth detail of the content of value configuration of customer. By considering how the customer use the interaction in communities context the engagement emerges as a way 1) to enforce their opinions about products and their quality 2) to take part to a values-laden context including experience of products as well as activities shaping brand values and 3) to make a more compelling experience of value sharing and spreading to affirm ethical values in different contexts - from shops to community and vice versa.

Social and ethical rewards explain also the mean for informants to be aware about their important role in co-creation and these results confirm the studies of Brinkmann and Peattie (2008). Our results also depict the different way the customers experience their awareness role as 1) they are

driven by self-promotion of collective values, 2) the need of belongingness to a meaning laden group sharing ethical values and 3) the desire to act as a contact person for the networking activities.

Our study contributes to the recent conceptualisation of co-creation in service research. It highlights engagement and awareness as some critical issues of customer co-creation and provides some insights on the nature of these practices.

These constructs boost towards the collective dimension of consumer interactions as the main critical process in co-creation. The view of co-creation needs to be fully prone to take into consideration the context (social, cultural and relational) in which the consumer interactions takeplace. Also a view of customer co-creation processes needs to offer a more integrated representation of engagement and awareness to develop a comprehensive view of its components.

There are some limitations as this research is based on a single case study (Chikudate, 2000), so the emerging results can be confirmed in the future by investigating other contexts.

In line with this assumption, some of the complex issues around consumers' participation and expectations have to be focused more and more in order to better understand consumer co-creation processes. The empirical results suggested a range of ethical concerns and competencies as having potential impact upon customers interaction practices.

Following these new ideas the managers need to think in a new way to their approach to ethical market focusing on the whole set of interactions and resources involving customers as well as other actors in interactions. Many further researches have to be considered in order to place these preliminary findings in the theoretical context of ethics and co-creation.

## REFERENCES

Abela, A. V., Murphy, P. E. (2008), "Marketing with integrity: ethics and the service-dominant logic for marketing", *Journal of the Academy of marketing science*, 36.

Algesheimer, R., Dholakia, U. M., Hermann, A. (2005), "The social influence of brand community: evidence from European car clubs", *Journal of Marketing*, 69 (7), 19-34.

Amine, A., Sitz, L. (2004), "How does a virtual brand community emerge? Some implications for marketing research", Research Paper, University Paris.

Anderson, K., and Jack, D. C. (1991), "Learning to listen: interview techniques and analysis". In S. B. Gluck & D. Patai (Eds.), *Women's words: the feminist practice of oral history*, pp. 11-27. New York: Routledge.

Bagozzi, R. ; Dholakia, Uptal M. (2002), "Intentional social action in virtual Communities", *Journal of Interactive Marketing*, 16 (2), 2-21.

- Banks, J., Deuze, M. (2009), "Co-creative labour", *International Journal of Cultural Studies*, 12 (5), 419-431.
- Bendapudi, N., Leone, R.P. (2003), "Psychological Implications of Customer Participation in CoProduction", *Journal of Marketing*, 67 (1), 14-28.
- Berthon, P., Ewing, M.T., Napoli, J. (2008), "Brand management in small to medium-sized enterprises", *Journal of Small Business Management*, 46 (1), 27-45.
- Black, I. R., Cherrier, H. (2010), "Anti-consumption as part of living a sustainable lifestyle: Daily practices, contextual motivations and subjective values", *Journal of Consumer Behaviour*, 9, 437-453.
- Brinkmann, J., Peattie, K. (2008), "Consumer Ethics Research: Reframing the Debate about Consumption for Good", *Electronic Journal of Business Ethics and Organization Studies*, 13 (1), 22-31.
- Brodie, R. J., Hollebeek, L. D., Juric, B., Ilic, A. (2011), "Customer engagement: conceptual domain, fundamental propositions, and implications for research", *Journal of Service Research*, 14, (3), 252-271.
- Cherrier, H. (2009), "Anti-consumption discourses and consumer-resistant identities", *Journal of Business Research*, 62 (1) 181-190.
- Chikudate, N. (2000), "A Phenomenological Approach to Inquiring into an Ethically Bankrupted Organization: A Case Study of a Japanese Company", *Journal of Business Ethics*, 28, 59-72.
- Cova, B., Dalli, D. (2009), "Working consumers – The next step in marketing theory", *Marketing theory*, 9, 315-340.
- Cowe, R. and Williams, S. (2001), "Who Are the Ethical Consumers?", Booklet for the Co-operative, The Co-operative bank, London
- Edvardsson, B., Tronvoll, B., Gruber, T. (2011), "Expanding understanding of service exchange and value co creation", *Journal of the Academy of Marketing Science*, 39 (2), pp. 327-339.
- Grönroos, C., Ravald, A. (2011), "Service as business logic: implications for value creation and marketing", *Journal of Service Management*, 22 (1), 5-22.
- Hollebeek, L. D. (2011), "Demystifying customer brand engagement: exploring the loyalty nexus", *Journal of Marketing Management*, 27, (7-8), 785-807
- Kempster, S. and Cope, J. (2010), "Learning to lead in the entrepreneurial context", *International Journal of Entrepreneurial Behaviour and Research*, 16 (1), 5-34.
- Lanigan, R. L (1979), "The phenomenology of human communication",

Philosophy Today, 23, 3-15.

Lusch, R. F, Vargo, S. L. and Tanniru, M. (2009), "Service, value networks and learning", *Journal of the Academy of Marketing Science*, 38 (1), 19-31.

Merleau-Ponty, M. (1962), "Phenomenology of perception", Routledge, New York.

Milner, R. M. (2009), "Working for the text: fan labor and the new organization", *International Journal of Cultural studies*, 12, 491-510.

Mooney, K., Rollins, N. (2008), *The Open Brand*, AIGA New Riders, Berkeley.

Muniz, A. M; and O'Guinn, T. (2001), "Brand community", *Journal of Consumer Research*.

Ng, I. C. L., Smith, L. (2012), "An Integrative Framework of Value" *Review of Marketing Research* 9, 207 – 243.

Prahalad, C.K., Ramaswamy, V. (2004), "The future of competition: co-creating unique value with customers", *Strategy and leadership*, 32 (3), 4-9.

Ridings, C., Gefen, D. (2004), "Virtual community attraction: why people hang out online", *Journal of Computer-Mediated Communication*, 10 (1).

Schatzki, T. R (1996), "Social Practices: A Wittgensteinian Approach to Human Activity and the Social", Cambridge University Press, Cambridge, MA.

Sebastiani, R., Montagini, F., Dalli, D (2012), "Ethical Consumption and New Business Models in the Food Industry. Evidence from the Eatly Case", *Journal of Business Ethics*.

van Doorn, J., Lemon K. N., Mittal V., Nass S., Pick D., Pirner P., Verhoef P. C. (2010), "Customer Engagement Behavior: Theoretical Foundations and Research Directions," *Journal of Service Research*, 13 (August), 253-266.

Vargo, S.L. and Lusch, R.L. (2004), "Evolving to a New Dominant Logic for Marketing", *Journal of Marketing* 68(1). 1–17.

Vargo, S. L., Maglio, P. P., Akaka, M. A. (2008), "On value and value co-creation: A service systems and service logic perspective", *European Management Journal*, 26(3) 145–152.

Vargo, S. L., Lusch, R. F. (2009), *A Service-Dominant Logic for Marketing*, The SAGE handbook of marketing theory.

Weller, S. C., (1987), "Shared Knowledge, Intracultural Variation, and Knowledge Aggregation", *American Behavioral Scientist*, 31(2)178-193.

# INTERNAL COMMUNICATION AS VALUE CREATION IN A CHANGE PROCESS

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## ABSTRACT

There are four issues leaders have to master according to our findings: (1) Strategic thinking in understanding why we have to change, (2) Ability to give the direction for the change process in the execution, (3) Ability to influence through communication and compassion, (4) Ability to build the relationships and alliances to get followers. There are according to our findings four needed tools to develop the leaders: (1) Leadership development course in communication and influence, (2) Leadership meetings with experience sharing and coaching, (3) Training in handling the difficult conversation, (4) Training in team methodology and relationship building. The interpretation of the data has further lead to a proposal for a general model for value creation in change processes.

## INTRODUCTION

This paper is written based on a project with the research problem “How can internal communication be used as a strategic tool concerning the people involved in a change process?” A case study in Statoils sub-surface activity in Stjørdal when changing into a virtual organization. Here geologists and engineers work with very demanding processes directed towards the planning of the different gas and oil findings of their area. The assumption is that if a management can handle the task of good internal communication during a change, a higher level of production and motivation among the employees will be a fact. The oil and gas industry are facing challenges concerning efficiency in their use of technological and human resources. Several large companies have seen the many advantages and also the necessity of being organized as a virtual organization. This gives the reward of real-time information and broader-competence based solutions, which eventually will lead to faster and more accurate decisions. These advantages have led the Norwegian company, Statoil into a large change process, where one of the steps in this is to focus on Integrated Operations (IO). A part of IO is to become a virtual organization. Change management can be a demanding operation.

This new type of organizing will for example lead to new knowledge demands, groups forming on temporary basis, more collaboration between different types of working groups, sometimes working shift hours instead of fixed and more use of open landscapes rather than locked offices. In order to exploit all the advantages of the change, it is vital that the company deals with the possible pitfalls concerning this and also how to handle the change in such manner that the employees acquire an understanding. Studies among different companies in the same industry show that there are different ways of organizing virtual corporations. This means that there is no “best way” of handling this issue. Because people are motivated by different

variables, the different factors in each company culture have to be considered when implementing a change. A goal for the study in the project was therefore to examine what the specific factors for the people in Statoil were and suggest how the leaders could use internal communication to create acceptance and motivation among the employees towards an optimal implementation of Stjørdals IO change. The more concrete purpose was to develop an understanding for how the leaders in Statoil could use internal communication as a strategic tool to maintain productivity and motivation among the employees during the change to a virtual organization. The key to make this transition and change to an IO based organisation is to make the employees to understand the value creating process in Statoil and the consequences of this process for the sub surface activities. This understanding has traditionally been limited to an understanding of the value chain itself with an inclusion of the value workshop (competence needed) and the value network (contractors needed). We have expanded this to the need for the value workshop, the value society and the value dialogue.

## COMMUNICATION AS A STRATEGIC FUNCTION IN CHANGE MANAGEMENT

Internal communication has a central and strategic function in change management. In times with big and fast changes, communication is especially important, because knowledge about what will happen reduces uncertainty and keeps the motivation level higher. The involved should receive the information early. It must be clear what the line in the organization structure is, and who has responsibility to give information to whom.

Based on a number of scientific reports on internal communication between persons, groups and on organizational level, Grunig (1992) has the following conclusions in form of an integrated theory on internal communication:

(1) Good internal communication is based on the principle of two-way symmetric communication. This means equal dialogue and mutual understanding and learning. The ideal situation is when leaders and employees to a large degree can shift in taking initiative to being the sender and receiver of the communication. (2) Symmetric communication creates a more effective organization built on openness, trust and trustworthiness in the relationship with strategic groups. (3) Good relations to internal target groups create a large degree of job satisfaction on the organizational level. In other words; equal dialogue, openness, trust and trustworthiness create motivated employees (Erlie 2003).

Internal communication is a tool to affect the organizational culture. Open and honest communication creates trust and builds a good communication climate. A good climate can be seen by mutual trust and equal dialogue between leaders and employees. At the same time, it is important to be aware of the fact that dialogue may not really be sought for. Some leaders consult their employees for opinions, but decisions are in fact made prior to this. This may create great mistrust that can take long time to re-establish.

Creating trust and a culture for mutual dialogue can be a long process. Larkin and Larkin (1994) states that a successful recipe to communicating in change consists of the following:

- (1) Give information directly to the first front leaders, and let them communicate the message further on to their own employees
- (2) Use oral and personal communication, face to face
- (3) Let the message first and foremost be about the local environment. Do not speak of overall goals and values, but focus on expectations and results in the local units. Communication must be about the employees every day life and what is considered close and relevant for the individuals. What separates oral canals from written, paper based or electronic is that the distribution of a message happens in more dimensions than just words. One can interpret the voices, faces, body language of the sender and even the receiver. The place, room and the furniture are also a part of the communication (Erlien 2003).

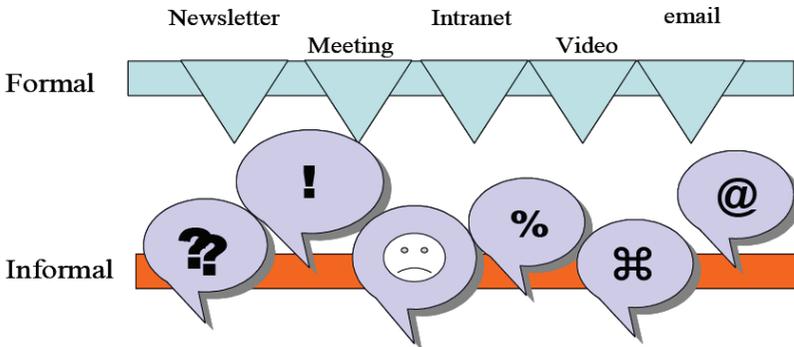
If the meeting shall contribute to creativity, the room itself should be inspiring perhaps by the use of colours? If a meeting or a process is stuck, a possibility can be to change the environmental factors and continue the meeting outside (Forsth 2005). Information technology is a useful tool to better the information flow in the organization and make it faster available for those who need it. Technology can improve the administrative routines. But technology can never replace the human contact between the leader and the employees. The communication climate does, according to Goldhaber (1993), consist of five factors:

- (1) Support - Employees feel that they through the communication with their nearest leader have their own value and importance built and maintained.
- (2) Influence - Employees feel that they freely can communicate upwards and have an influence on decisions.
- (3) Trust and trustworthiness - To what degree all parts see sources, messages and communication processes as trustworthy.
- (4) Openness and honesty - In any relation, openness and honesty is a part of both listening and conversing.
- (5) Goals and expectations - These are clearly and explicitly stated to all employees in the organization.

The cooperation between formal and informal networks is essential. A lot of the information and communication are formal and planned, but a lot is also informal, unplanned communication and out of the leaders control. Even if it is out of the leaders' control, an attempt to at least understand how the communication and networks function should be tried out. The informal communication can be both a resource and a hinder in a connection with the structured and planned communication (Grenness 1999). The positive aspects of the informal networks are that they consist of a lot of knowledge, which is developed in the day-to-day contact between people. Figure 1 illustrates the relationship between formal and informal communication.

Traditionally the information work has been concentrated on the formal communication, which is illustrated on the top of the scale in the figure: newsletter, meetings, intranet, video and e-mail.

The informal scale, on the other hand, are full of feelings, and unfortunately at times contains little or misunderstood facts. It is in the smoking area, the cantina or when they meet for a Friday's beer, the formal messages from the leaders are interpreted. It is here they blow out their frustration, state their fear and perhaps also build up their aggression.



## METHODOLOGY AND EMPIRICAL FINDINGS

With the basis in theory, an empirical research was conducted at Statoil sub-sea division in in Stjørdal. The goal was to test the theory on the company's performed change, in order to shed a theoretical light on how the change was handled, and for Statoil to make possible improvements in the next phase. An important note is that the employees and not the leaders initiated the change in Statoil, Stjørdal. It was in fact the leaders who had the most resistance towards this change. Statoil, Stjørdal had a change group who was in charge of the details surrounding the change, and the members consisted mostly of the initiative takers. The basic methodological principles for the research behind this paper were in the hermeneutic circle by Aas Askheim and Grennes (2000). The purpose by this was to develop a meaningful interpretation based on dialogue.

The process consisted of a gradual and mutual understanding and correction of the participants' reality and assumptions. A qualitative research design was suitable in this case study because it could be helpful in reaching personal and deep information. It could say something about the relationships, attitudes, needs and alike in the workplace and how the workers wished to be triggered in connection to this. Nine respondents participated in the interviews. They had worked in Stjørdal between one and ten years and played different roles in the change.

Statoil claimed in their climate reports that the employees at Stjørdal reported of high work satisfaction supported this view. This is, again,

very much in line with what the empirical research revealed. All of the nine respondents confirmed that the environment at work was very good. They highlighted characteristics as friendly, competent and helpful. It was also mentioned that the medium age is low and that this resulted in a high level of creativity. In one way a good working environment is positive, but there can be challenges related to change an organization where the employees have been very happy with the way it has been. This was supported by the information revealed in the empirical research, which showed that the people who have worked in Stjørdal the longest period of time, had most resistance towards the change.

The environment was, on the other hand, said to be quite stressful. The people had a large level of responsibility and were given a lot of freedom. They enjoyed this, but at the same time it gave them less time to cope with a changing environment. It was obvious that the department where the initiatives steamed from had put the change process more on the agenda. The other departments expressed lack of time to implement this in addition to all the regular work, and added that they were not staffed to handle such a process. The general communication climate in Statoil, Stjørdal is analyzed to be very good. Empirical research revealed that the employees and leaders felt that they could easily speak their mind, and it was very clear were to go if something should be addressed. It was also said that the employees at Stjørdal speak if they have something on their mind, and that they are heard. This makes a good foundation for a change situation. At the same time, some negative issues regarding the change process were stressed as stated in the points above. These will be analyzed further below.

In the communicating of the change message, different communication channels were used. The information seemed to steam from very different channels and it was unsure if there was a structured plan for this. It was important for Statoil to use the existing lines, which meant that the leaders were in charge of information. This was supposed to help them feel ownership of the change, since the initiative came from below. This strategy is correct according to theory which states that information should be given directly to the front leaders who again shall pass it further down. The result has however been that departments have been getting different amounts of information dependent of how positive and involved the leader has been in the change. As discussed above, some of the department leaders were unmotivated for this change. A lot of the communication seemed to be up to the leader to decide, and the value of using different channels dependent of what was being communicated didn't seem to be taken into account. It also varied what information the leaders themselves got. Some shared information with dedicated people, but the respondents of the research shared a concern that it was too much up to them to collect it. There were different meetings about the change held at different levels and with different frequency. Some were held between the change group and the licences and others were internal department meetings. Oral, personal communication was valued in the theory, because it helps successful communication. Meetings are therefore a good strategy; the challenge lies in motivating the leaders and making sure that they have the information required. A web link with reports from the

meetings should be distributed to the employees, one respondent claimed. Still, four of the respondents felt a lack of information. This included oral updates and especially to those not directly involved in the change. It was also expressed that success stories and examples were lacking. This could have enhanced motivation tremendously. Criticism also occurred because no information was made on a central level. This resulted in many people directing without really getting the important issues across. The responsibility was put on leaders and their ability to communicate effectively. With regard to their, up until now, sometimes lack of interest of the change, an idea would have been to use internal paper, news-letters and networks. A database on intranet did exist, but it was difficult to use and it was hard to find information when one did not know what to look for. There seemed to be a need for guidance in this area. It should also be noted that because the employees had a large workload, they did not have a lot of time to seek information. This should be given them. Lastly, trade unions were a big help in the information work providing meetings and presentations.

The respondents generally expressed a frustration over the pull-thinking in the information strategy of the organization. Little information was given, and the tools for collecting information were difficult to search through. Because employees had a lot to do at work, they did not have time to search for information. Theory stated that it was essential to give a lot of information in a change process. Even when there was nothing new, the need to inform was present, so that all employees knew the status. A recommendation was therefore to make information more easily accessible and implement a more push-strategy for giving information. One last issue to address here is the absence of a multi-dimension thinking regarding communication channels. Perhaps an advantage could be to add light, sound, colours, taste, smell or movement to the existing channels to make them more interesting and also eye-catching or even breathtaking. This is also supported with the theory where it is recommended to make dramatic, symbolic changes that affect the work. Here, creativity within the company could be used to find possible celebrations for the goal in 2006 or other part-goals. This will create motivation and inspiration.

## ANALYZING THE INTERNAL COMMUNICATION IN THE CHANGE PROCESS

The theory stresses the importance of a two-way communication that includes stating own experience and views. This is a challenge, but very motivating. The inputs must be taken seriously. Otherwise it may create a big mistrust. All except one respondent thought that the employees were active in providing suggestions and involvement in the change, but that there were some variation between the disciplines and departments. This was by five respondents said to be easy to do, and the suggestions were highly valued claims all. The ideas make a basis for the change. There should be a short distance to go with the ideas. A contradicting feeling was that it was easy as long as one was directly involved in IO, but harder for the rest. There was not a good structure for incoming suggestions. It seemed like Stjørdal had seen the advantages of equal

dialogue, mutual understanding and learning as the best way to operate. The employees were highly competent people and had a lot to contribute with. They could communicate upwards and had an influence on decisions, as addressed earlier. This influences the communication climate in a positive manner.

The respondent's judgement of the communication done in the change was interesting. None of the respondents said that it was good. Six said that it was average, while one claimed that it was poor to begin with. The ones responsible for communicating did not seem to fully understand the content and goal themselves. There were very different understandings to whether the information was fitted to the needs of the employees. Some felt that it was ok, while others felt the total contrary. When the respondents stated that there had been a lot of questions on the aftermath of the information meetings, it revealed that perhaps the information could have been planned in greater detail. It is a common mistake to be sender oriented, the theory claims. This can be damaging. It is then difficult to reach through with the real message. The importance of targeted messages must be stressed. It is difficult to fully understand the employee's needs, but a lot of effort should be put in to at least try, and the choice of word also should be thought through. A language that is understood by the targeted groups should be used. The information given should be clear, relevant and answer questions considered important for the employees like in example: "What will my day look like after this change?"

A questionable aspect of the communication was by a respondent said to be that the personnel department had not been involved in the change. It is a belief that the information job could have been done very differently if that was the case. Another respondent said that it had been very difficult for the change group to find out what role to fill. There had been no guideline as to whether they could command leaders to do tasks or communicate differently and it had taken time to figure this out. Other opinions on the communication were that there had been too much mystery about the change. It should rather have been normalized. This is supported in the theory where it is written that it is damaging to be insecure of own workplace. It leads to loss of inspiration and motivation. Improvements could be to give a more realistic picture of both the positive and the negative. One should be informal, honest, clear, and understandable as well as focus on goal and vision, and you can almost never give too much information.

This is something that the management should bare in mind. The theory adds that in turbulent times, information is necessary to remain safety, motivation and not least knowledge on what is happening. Some respondents said that the information they got about the change came from the leaders, while others said that they got the information directly from the change group. Others again said that they used own channels to get the necessary information. This was a problem because the employees then got very different amounts of information.

There was no clear use of either a classic two-step strategy of communication or an alternative strategy with change agents as referred

to earlier. There seemed to be a mix of using the classical one where the leaders are informing, but at the same time the change group and the innovative employees were telling the leaders what to say and how to do things.

The confusion surrounding this may have led to unnecessary communication difficulties. The empirical research revealed a list with the following unsure aspects related to the communication in this change; the time aspect, the lack of their information, fear of power, lack of reward and underestimation of the employees information needs were essential. The top management should have this in mind when giving the very important job of communicating a change. A good idea is for them to stress these points to the leaders. A large percentage of the respondents felt that it was the right persons who had this job, i.e. the leaders; the more reluctant ones were sceptic because the leaders, as earlier mentioned, felt different degrees of ownership of the change. Their sometimes lack of engagement shined through to the employees. This led the departments being on very different steps in the process. The fact that the change steamed from sub-surface employees and not leaders created a lot of struggle. The employees had been the ones convincing the leaders of new ways of working. It was a difficult situation to handle correctly and especially at an early stage of a project where no one really knew all aspects of what was happening. This was very much the case for the change in Stjørdal. It was also a suggestion that a professional change agent or consultant should be used. The ones handling the change were engineers without personnel experience. The respondents themselves expressed this as a problem because they did not know how to work with the soft sides.

The quality of information was also evaluated. One interesting aspect was whether employees had received information at the same time. The theory claims that in times with big and fast changes, communication is especially important because knowledge about what will happen reduces uncertainty and keeps the motivation level higher. The involved should get the information as soon as possible. In regard to this, five respondents said that information was not distributed at the same time. This had to do with leaders different areas of interest and groups working on different projects. Three felt that information had been communicated equally, but some groups had been very positive while others had denied all involvement. Luckily, this trend changed to a more positive note.

The informants did however stress the fact that there could never be too much information and maybe the management should have asked them whether they used all possible arenas for informing their employees. This could stop unreasonable speculations about what other groups were working on and where the organization was heading. Some of the respondents also expressed that the information should have come at an earlier stage, even if the plan was not completed. The feeling of time pressure was an important aspect and the responses to this was quite different. One said that he was so involved in the change so that the change had become a part of him, but was at the same time aware that especially the negative ones may have seen it as extra work. Some felt

disturbed and that work took longer. This concerns both work processes and software. Others again saw the increased work pressure as an investment. It was said that it was certain that time pressure affects solutions, but unsure in what ways. Negative aspects were often given more attention. The ones that were very positive to the change could on the other hand extensively focus on the positive aspects. This was important to have in mind when dealing with both the ones in favour of the change and not.

Seven out of nine respondents said that there was a strong informal network in Stjørdal. This included talk in the hallways and across departments. The theory states that, the informal information is mostly unplanned and out of the leaders' control. This does however not mean that the managers should not try to understand it. The informal networks consisted of a lot of knowledge, and this could be a valuable resource for the organization. Here employees talk freely and one can really get a feel of what their interests are and what they are sceptic about. Great solutions may also be presented here. Some of the respondents did not feel that the management took full advantage of these networks and this is unfortunate. There is a large possibility in this area. A majority of the respondents saw a need for the managers to participate more frequently in this arena. One respondent claimed that the leader has never made contact during lunch or other social settings. Another said that his leader was situated in another part of the building. The leader could even become more visible outside of own department. Only one respondent said that a leader should inform under formal meetings only. Stjørdal was troubled with rumours about the change. This could have been somewhat avoided if there would have been leaders or change agents mingling in the networks. They should have used high quality formal communication that is planned because it could reduce the negative speculations. Then they should have involved facts when employees were talking about their feelings in the unplanned informal communication. This could have stopped unnecessary frustration.

## CONCLUSION FINDINGS AND THEORETICAL MODEL

Leaders who know how to influence and communicate can really make the difference between a successful and not successful change integration. There are four issues leaders have to master according to our findings: (1) Strategic thinking in understanding why we have to change- the value chain, (2) Ability to give the direction for the change process in the execution - the value workshop, (3) Ability to influence through communication and compassion- the value dialogue, (4) Ability to build the relationships and alliances to get followers- the value network. There are according to our findings four needed tools to develop the leaders: (1) Leadership development course in communication and influence, (2) Leadership meetings with experience sharing and coaching, (3) Training in handling the difficult conversation, (4) Training in team methodology and relationship building. The key according to our empirical findings is the corporate internal communication of the whole value creating process; we have labelled this the value dialogue. We have used our empirical findings from a limited setting where you have

succeeded with internal communication in an important change process to prepare a general model for value creation. What succeeded internally was a plan for communication (value workshop) that resulted in improved communication for change processes in the local value chain and thus in the value network (virtual organisation). Our general model based upon empirical findings in Statoil consists of the following parts:

- A. The value workshop The knowledge, skills and attitudes needed handled through a plan either for corporate communication or for strategic knowledge management.
- B. The value chain. The whole value chain needed to fulfil any delivery.
- C. The value network. The value network needed to deliver the value chain – i.e. partners, contractors, sub contractors.
- D. The value community. The handling of political, social, technological, cultural, environmental stakeholder factors.
- E. The value dialogue. This is the key to any business process and is the new important role for corporate communication. It is the handling of the value chain, the value workshop, the value network and the value community. We are proposing that in the future competitive advantage can only be gained through understanding the Value Dialogue as a communication navigator between the Value Chain, the Value Shop the Value Network and the Value Community. The contribution of our research is the model as a holistic understanding of value creation including part D and E as an addition to earlier research.

## REFERENCES

- Aas, A., O.Gaute and T.Grenness., (2000), Fra tall til ord – Kvalitativ metode i markedsforskning, Scandinavian University Press, Oslo, Norway
- Erlie, B., (2003), Intern Kommunikasjon, Scandinavian University Press, Oslo, Norway
- Goldhaber, G. M., (1993), Organizational Communication, WCB Brown & Benchmark Publishers, London, England
- Grenness, T., (1999), Perception of Values and Commitment of Norwegian Managers, Brunel University Press, Henley-on-Thames, England.
- Grunig, J.E., (1992), Excellence in Public Relations and Communication Management, Lawrence Erlbaum Associates, Mahwah, New Jersey, USA

# LEAD PATIENTS - AN EXPLORATORY INVESTIGATION OF LEAD USERS IN HEALTHCARE

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## ABSTRACT

This exploration of lead users in healthcare shows that, with openness, insight, and ingenuity, the most creative patients have the potential to be especially valuable in service innovation efforts. These patients combine capabilities for innovation with strong relational capabilities to suggest new solutions for specific problems. Using the lead patients in this study as illustrations, we discuss the theoretical and practical implications of the service and healthcare context, and suggest amendments to the lead user characterisations for a healthcare setting. We also highlight the challenges and promising opportunities involved with incorporating lead patients into service innovation.

## INTRODUCTION

The lead user methodology, which was first presented by Erik von Hippel in 1986, posits that a small subset of users will stand out from the general market in terms of how they experience needs ahead of the general market, and will benefit more from a solution to their needs than most other users. These lead users are often the source of new innovations (von Hippel, 1986). The present study, which concerns lead users in a healthcare context, is the product of an unintended finding of this phenomenon among patients in a project for service innovation. Through diaries, patients contributed with stories and ideas for innovation and we observed that the most interesting ideas came from a few select patients. These few patients seemed to focus on specific aspects of their care and were open to share ideas and reflections that were especially insightful.

Freely based on the lead user methodology, we tentatively propose the term “lead patients” for patients who demonstrate particular openness, insight, and ingenuity. We use the lead user framework as a starting point in an exploration of these patients and discuss the ways in which they can be involved in service innovation. This follows an increased focus on customer value creation (Normann and Ramírez, 1993; Vargo and Lusch, 2004), which, in a healthcare context, is primarily manifested in shared decision-making (Wills and Holmes-Rovner, 2003) and patient empowerment (Brennan, 1999). The present study adds to an emerging field of research that suggests greater patient participation in the innovation of healthcare services (see Longtin et al., 2010).

Although almost three decades have passed since von Hippel first presented his seminal work on lead users, the academic literature contains surprisingly few studies of applications within the service sector (see Skiba and Herstatt, 2009; Oliveira and von Hippel, 2011) and, as far as we can ascertain, none including patients. Healthcare is a context in which users – that is, patients – have certain salient differences from

other user groups. Namely, they may be sick, reluctant to participate, required to relinquish their privacy, at risk and must be understood from a whole-person service perspective (Berry and Bendapudi, 2007). Bitner and Brown (2008) highlight the tremendous need for innovation in healthcare and observe that innovations in healthcare often seem to overlook individual patients. A problem for caregivers wishing to involve patients in innovation is a lack of established methods and knowledge about which patients to involve and when (Grol, 2001). This makes healthcare a novel and interesting area for the lead user projects, with important opportunities for innovation rooted in the needs of individuals.

Accordingly, the aim of the present study is to explore the lead user theory in a healthcare setting. Specifically, we problematize the current lead user characterizations in this context, discuss market differences, and identify the challenges and opportunities that lie in involving lead patients in innovation. From the above-mentioned innovation project, containing 73 patients, we identify and portray four lead patients. These four lead patients range from a 69-year-old man with lung cancer to a 30-year-old mother with chronic pain, but they are all united in a seemingly exceptional ability to contribute to service innovation.

This study adds to the literature in several ways. Firstly, by describing the lead patients in this study, we demonstrate the usefulness of these patients to innovation, and the relevance of lead user theory to healthcare. Secondly, we suggest expanding the characterizations of what lead users are, and point to important additional capabilities these users need, in a healthcare context. Thirdly, in relation to important market differences between healthcare and other sectors, we discuss the source of these users' strong needs.

Our findings can inform projects based on lead user methods, in healthcare, but also in other service operations. We hope that this work will help to revive the theoretical discussion concerning the lead user methodology.

## LEAD USER THEORY

An important stream of innovation research concerns innovation that stems from customers rather than from the product development departments of companies (Edvardsson et al., 2012). A pioneer within this field is Eric von Hippel, who in 1986 introduced the lead user method, a proactive marketing method that aims to understand future customer needs by investigating lead users; that is, users who have needs that will exist in the future for most customers (von Hippel, 1986). Two characteristics are used to identify a lead user (von Hippel, 1986). Firstly, lead users face needs that will be general in the marketplace, but face them earlier than most users. Secondly, lead users are positioned to benefit significantly by obtaining a solutions to those needs. These users will typically attempt to address the needs they experience and come up with own solutions and innovations to solve these problems (von Hippel, 1986). Since von Hippel's pioneering work, the purpose of utilizing lead users has been described as a means with which to identify strong

market opportunities and develop concepts for new products and services (Lüthje and Herstatt, 2004; Churchill et al., 2009).

The literature offers several other important explanations as to why users play an important role in innovation. According to von Hippel (1994), one requirement for problem solving is to bring together information about the problem, with the ability to solve the problem at a single locus. Users have “sticky information”, which is important for innovation but hard to grasp, and traditional methods only “skim the surface”, according to von Hippel (2001). To develop user-centric solutions, an organization must view itself and its services from the perspective of its users, through the lens of the customer (Gustafsson and Johnson, 2003). Furthermore, users are unlike professional product developers in that they are not bound by the limitations that expertise in a field brings, and are more open to novel solutions and usages (Kristensson et al., 2004). Evidence supports that involving users in the creation process increases the likelihood that a new product will be successful (von Hippel, 2001; Lüthje and Herstatt, 2004).

Few lead user studies exist concerning services. However, Skiba and Herstatt (2009) showed that service lead users exist, and suggested that there are no major differences between lead users in service compared to other lead users. In a banking context, Oliveira and von Hippel (2011) argued that since users often use self-services, it is reasonable to expect that they also innovate in relation to these.

## METHOD

The empirical data for this study was collected from an innovation initiative, involving a diary-based method (Alaszewski, 2006; Elg et al., 2012; Jones, 2000) that captures a patient’s experiences and ideas in the patient’s own context. A total of 73 patients from oncology, rehabilitation gastro and orthopedic units used diaries designed to capture reflections and ideas for innovation. Our analysis of over 400 ideas and corresponding texts generally followed Gremler’s (2004) guidelines for content analysis. We grouped the ideas into the following six categories: organizational, social, informational, attitude among health-care staff, practical, and clinical. To identify lead patients, we analyzed the frequency of ideas for each individual in each category and analyzed all diaries in full to identify patients who showed special abilities in the ways they reflected or solved problems. We selected four highly performing patients for further analysis, then thoroughly re-read and analyzed the selected diaries to capture the concept of the lead patients and detect patterns of ideas, activities, motivation, and reflections. The next section introduces the lead patients and their ideas.

## RESULTS

Here, we describe the lead patients found in this study. Each patient is presented with a brief background presentation of their situation and needs, what ideas they offered, and if and how they implement their solutions. The names of the patients have been changed.

Daily living aids – Henry. Henry is a 76-year-old retired farmer and a hip replacement patient. We identified Henry as a lead patient in with regard to daily living aids and solutions to everyday problems. Hip patients encounter a number of issues when they return to their home environment, mainly practical issues, but this patient showed a remarkable ability and level of innovativeness in terms of overcoming these issues and suggesting solutions. His diary is full of small but innovative and useful solutions to problems he experienced in his home, at the hospital, and even on hunting excursions with his dog. For instance, Henry suggested that patients should be provided with stools, which can be used for a multitude of things. It can be difficult to pick up dog droppings, so Henry suggested inventing a kind of stick with a bag that makes it easy to pick up the droppings? Another suggestion was a pillow (with changeable covers) for a patient to put between his or her legs helps to ease the pain during the night. Henry also suggested that physicians should measure both of a patient's legs after surgery, so that the patients receive the right inserts in their shoes before problems arise.

As the above shows, Henry often comes up with his own solutions to his problems. When he can't implement them for himself, he provides suggestions for how they could be solved. Henry's attention to everyday problems, combined with his creative personality, makes his contribution unique.

Social interactions – Simon. Simon is a middle-aged teacher with a background in nursing, and is also an orthopedic patient in the hospital for a hip replacement. We identified Simon as a lead patient in the social dimensions of health care. Simon stands out in terms of his ability and skill to constantly notice, reflect, and provide suggestions to social aspects. Simon shares reports of incidents, ideas, and suggestions from the entire experience of being a patient in the hospital, from admission, through surgery and rehabilitation at the hospital, to facing daily problems back at home. Simon suggested that patients should be placed with others with similar interests and life situation, as this is important for the wellbeing of the patient. He also suggested giving patients the opportunity to ask questions and provide information multiple times, as patients can be nervous and might hesitate to ask questions. Other suggestions included the observation that ward-rounds are outdated and that patients and professionals should have private conversations; that every patients should be treated as an individual and that healthcare professionals need to be educated about these questions; and that patients who are going home should receive a list of people to call in different situations.

Simon rarely implements ideas himself, as he lacks the ability or power to do so and because his ideas are often focused around aspects such as organizational matters and education of healthcare professionals. However, his thoughtful reflections provide hard-to-get information on social aspects of being a patient in the hospital for surgery.

Life strategies – Agnes. Agnes is a 30-year-old mother of two who suffers from chronic pain. We identify Agnes as a lead patient in life strategies, who is constantly finding ways to juggle everyday life despite her severe pain. She participates in a “pain school” offered at the hospital, where she learns about working more ergonomically and about relaxation techniques. At the same time, despite of her difficult situation, Agnes does not want to assume the role of a patient and suggests that “Change the word patient in care to something more positive ... such as ‘human being,’ ‘user,’ or ‘customer’”. In her diary, Agnes shares anecdotes from incidents in real life, such as choosing to celebrate your 30th birthday when, on the same time, you have so much pain that it is a huge effort to simply get through the day. Her diary concerns topics like how to remove the frost from your car window despite the pain; how to train your toddlers to mount the changing table themselves; how to organize your IKEA visits to empty Saturdays; how to try to make your kids stay a bit longer at kindergarten so that you have energy to spend with them; and the need to relieve temporary pain so that you are able to work long-term. Agnes implements her ideas and tries everything she can think of at least once, with the goal of having energy for her children and, for example, enjoy a cosy and pain-free Friday evening with her family. She carries insights about living in constant pain at the same time as managing her family life; experiences that are very difficult for an outsider who has not had such experiences to understand.

Leadership – David. David is 69 years old, has recently retired from a job as a technician and manager, and suffers from an advanced stage of lung cancer. While writing his diary, he is in poor condition from the chemotherapy and his handwriting is poor. We identify David as a lead patient with regards to leadership issues as, somewhat surprisingly, his diary continuously contains insightful ideas and reflections related to the care staffs situation and the organization of the care. His ideas emerge from observations he makes during his care and include the following: Staff need to increase in number if mistakes are to be avoided; staff need to be trained in problem-solving techniques and listened to for improvement ideas; and patient fees need to increase to provide better funding. Even when he realizes he is about to receive very bad news, he is able to relate to the staff and their situation. “I see a group of white coats, and I see... there’s something called body language... and I thought ‘Aha’. After a while, young and beautiful Emma arrives... and I think to myself, ‘Emma gets to do this, because she’s the youngest and most inexperienced, and she gets to tell me [the bad news].’ ... I felt so bad for her, she probably felt really sorry for me, I could see that. If anyone was about to cry, it was her...” David believes that physicians should receive support and rest after delivering bad news.

David does not implement ideas, as they primarily concern the caregiver rather than himself, but he does discuss solutions. For David, it seems as though being creative and reflective is not an option; it is the way he is and he wants to contribute even though he is unlikely to reap the benefits himself.

Table 1: Overview of the lead patients

Patient	Needs	Output
Henry	Practicalities, following reduced mobility surgery.	Living aids and practical tips. Implements ideas himself.
Simon	Worries about surgery, needs good calming social contacts.	Ideas for pro-social interactions. Unable to implement ideas.
Agnes	Needs ways to live a full life despite chronic pain.	Tactics for everyday life situations. Implements ideas.
David	Is disturbed by organizational dysfunctions.	Ideas about leadership. Unable to implement ideas.

## DISCUSSION AND IMPLICATIONS

The lead patients in this study clearly display strong abilities to contribute in healthcare. They are able to draw from the experiences of being patients with own skills and knowledge to find solutions to the problems and needs they perceive. In line with lead user theory (von Hippel, 1986), our results indicate that lead patients are lead users within a specific domain where they experience a particular need, as opposed to being innovative in a larger range of topics. These needs may concern the realities of the personal situation, but also the contacts and experiences regarding the caregiver. As von Hippel (1994) put it, the information they utilize is very sticky and unique to the context.

According to the first criteria for lead user selection, these are leaders of a trend within the market place (von Hippel, 1986). Trends naturally exists also in healthcare contexts, driven by larger societal changes, such as increased individualization (Nordgren, 2009). However, the lead patients in this study are unique, but not primarily in the sense that they are leaders of a specific new trend. The need to have good social contacts or to manage one's family despite pain cannot be described as new trends. Instead, lead patients are leaders in the sense that they have particularly strong needs that they perceive as being unmet and, at the same time, are highly able to think of solutions to these needs. We speculate that the reasons why these needs are still not met by the caregivers could be due to the traditionally low focus on patient satisfaction in healthcare and low market incentives to deal with issues in the patients' personal sphere. For caregivers who want to improve their service, this means there are excellent opportunities for using lead user methodologies for innovation to serve not only needs that are new to the market, but also existing needs that remain untended.

It is important for care developers who involve and select patients for innovation initiatives to consider the involuntary and vulnerable position in which patients find themselves. Patients are sick and potentially at risk at the same time as they are forced to relinquish from their privacy (Berry and Bendapudi, 2007). Those patients who still chose to make great efforts to innovate and share innovation show not only that they possess capabilities required for innovation, but also strong relational capabilities.

They express openness and empathy to help others, and seem to derive intrinsic personal rewards from making the efforts to innovate and share ideas without necessarily being able to benefit from their ideas themselves. For instance, the lead patients we identified in our study were one-time patients (such as Simon) or sufferers of terminal diseases (such as David) and were unlike to experience the same procedure and processes again. Despite this, they still chose to actively engage in development. This questions the second identifier for lead users; namely, that they are users who strongly benefit from a solution. It would seem that empathy and affinity to the caregiver are also important drivers for innovation. It is essential to note that, unlike lead users in other settings, lead patients may not be in a position to solve the problems and needs they are facing. This could be due to ability, illness, or because of the healthcare context in which the patient has little control over a host of organizational and treatment issues. In many respects, this is true of most service operations. As our lead patients show, it is difficult to amend a service that heavily depends on the actions of the provider. This contrasts with the findings in Herstatt and Skiba (2009), which suggest that there are no differences between service lead users and lead users in manufacturing and other industries.

We believe that the lead user methodology is highly relevant to healthcare and service operations overall, but that the perception of what a lead user is may need to be redefined in accordance with previous discussions. There is a risk otherwise that these innovative patients and their potential remain unseen. We want to stress that we also believe that lead users in accordance to von Hippels original criteria are possible in healthcare, and we therefore propose an extension of definitions, not a replacement (see summary in Table 2). To identify lead patients, broader techniques for patient involvement in healthcare can be used, such as the diary methods applied in this study. This will show which patients are most suitable for inclusion in innovation in direct collaboration with care providers. It is our firm belief that this can yield innovations in healthcare as viewed from the lens of the patients (Gustafsson and Johnson, 2003) and serve as an important tool for service developers striving to meet the tremendous need for innovation in healthcare highlighted by Bitner and Brown (2008).

Table 2: The special conditions for lead patients.

	<b>Market</b>	<b>User situation</b>	<b>Drivers</b>	<b>Requires</b>
<b>Lead Users</b>	Unmet needs exist and are emerging due to underlying trends.	Has strong needs and tries to find solutions, as solutions are not available. Enthusiastic user.	Direct benefit from use	Innovative competencies
<b>Additions</b>	Unmet needs exist due to negligence to individual needs and needs in personal sphere.	Has or sees strong needs and reflects on solutions, but often lacks ability to implement. Involuntary user.	Affinity with provider Empathy with co-patients	Relational competencies

## CONCLUSIONS

Considering that almost three decades have passed since von Hippel (1986) first presented his seminal work on lead users, it is surprising how little has been written on lead users in service and healthcare. In this study on lead patients, we demonstrate that lead user theory is relevant to healthcare, but we also propose an expansion of its characteristics. The first criterion for identifying lead users is that these users are early to face needs that will be general in the marketplace. In healthcare, rather than being leaders of new trends, lead patients have particularly strong needs that remain unmet, but are highly able to find solutions. The second criterion is that lead users are positioned to benefit significantly by obtaining solutions to their needs. However, lead patients are often driven to innovate by additional motives such as affinity with a caregiver and empathy. Furthermore, we note that lead patients combine capabilities for innovation with strong relational capabilities to innovate. Due to their involuntary position, the openness and willingness to share are important requirements. While it is often impossible for patients to implement ideas alone, we believe that lead patients can play an important role in service innovation. We welcome research that continues to develop blueprints for how users can be involved in the innovation of healthcare.

## REFERENCES

- Alaszewski, A., 2006. Using diaries for social research. SAGE.
- Berry, L.L., Bendapudi, N., 2007. Health Care: A Fertile Field for Service Research. *Journal of Service Research* 10, 111–122.
- Bitner, M.J., Brown, S.W., 2008. The service imperative. *Business Horizons* 51, 39–46.
- Brennan, P.F., 1999. Health informatics and community health: support for patients as collaborators in care. *Methods Inf Med* 38, 274–278.
- Churchill, J., von Hippel, E., Sonnack, M., 2009. The Lead User Project Handbook [WWW Document]. URL <http://web.mit.edu/evhippel/www/teaching.htm> (accessed 4.1.12).
- Edvardsson, B., Kristensson, P., Magnusson, P., Sundström, E., 2012. Customer integration within service development—A review of methods and an analysis of insitu and exsitu contributions. *Technovation* 32, 419–429.
- Elg, M., Engström, J., Witell, L., Poksinska, B., 2012. Co-creation and learning in health-care service development. *Journal of Service Management* 23, 328–343.
- Gremler, D.D., 2004. The Critical Incident Technique in Service Research. *Journal of Service Research* 7, 65–89.
- Grol, R., 2001. Improving the quality of medical care - Building bridges

among professional pride, payer profit, and patient satisfaction. *Jama Journal of the American Medical Association* 286, 2578–2585.

Gustafsson, A., Johnson, M.D., 2003. *Competing in a service economy: how to create a competitive advantage through service development and innovation*. John Wiley and Sons.

Jones, R.K., 2000. The Unsolicited Diary as a Qualitative Research Tool for Advanced Research Capacity in the Field of Health and Illness. *Qualitative Health Research* 10, 555–567.

Kristensson, P., Gustafsson, A., Archer, T., 2004. Harnessing the Creative Potential among Users. *Journal of Product Innovation Management* 21, 4–14.

Lüthje, C., Herstatt, C., 2004. The Lead User method: an outline of empirical findings and issues for future research. *R&D Management* 34, 553–568.

Nordgren, L., 2009. Value creation in health care services - developing service productivity: Experiences from Sweden. *International Journal of Public Sector Management* 22, 114–127.

Normann, R., Ramírez, R., 1993. From value chain to value constellation: designing interactive strategy. *Harv Bus Rev* 71, 65–77.

Oliveira, P., von Hippel, E., 2011. Users as service innovators: The case of banking services. *Research Policy* 40, 806–818.

Vargo, S., Lusch, R., 2004. Evolving to a New Dominant Logic for Marketing. *Journal of Marketing* 68, 1–17.

Von Hippel, E., 1986. Lead Users: A Source of Novel Product Concepts. *Management Science* 32, 791–805.

Von Hippel, E., 1994. “Sticky Information” and the Locus of Problem Solving: Implications for Innovation. *Management Science* 40, 429–439.

Von Hippel, E., 2001. User toolkits for innovation. *Journal of Product Innovation Management* 18, 247–257.

Wills, C.E., Holmes-Rovner, M., 2003. Patient comprehension of information for shared treatment decision making: state of the art and future directions. *Patient Educ Couns* 50, 285–290.

# MANAGEMENT OF CUSTOMER DELIGHT IN CUSTOMER CARE CENTERS

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## ABSTRACT

Research today has come to suggest, that companies should delight their customers in order to benefit from positive effects such as customer loyalty. However, although the concept of customer delight has constantly been gaining attention among academics and today constitutes a highly relevant topic in business practice, only little research in this field has been conducted. Moreover, customer delight to date has only been investigated from a customer perspective. This paper, hence, aims to provide insights into the current understanding, the implementation and measurement of customer delight. An exploratory study with a sample of 197 customer managers has been conducted.

## INTRODUCTION

While in the past, especially the concept of customer satisfaction has been considered key to long-term economic success, more and more companies today have discovered customer delight as a strategic measure in order to differentiate themselves. However, although the management of customer delight constitutes a hot topic and a subject of high relevance in academics as well as business practice, there still exists a great lack of scientific knowledge and practical know-how in the field. Especially the understanding, implementation and measurement of customer delight show severe discrepancies. Although customer delight has well been subject to research in recent years, the amount of scientific literature on the concept is still very limited. Since the central focus of research has always been on the customer perspective so far, it only provides a very unidirectional view of the subject. To date, neither definitions nor general understanding of customer delight among customer managers have been subject to research. Further, research questions such as how customer delight can be measured or whether there are guidelines for how often a customer is to be delighted, still have to be investigated. This, in our opinion, constitutes a substantial gap in the existing research and has been the core motivator to investigate the management of customer delight from a service provider perspective.

## THE STUDY

The main goal of the study is the investigation of the status quo of customer delight management, taking into consideration all personal contacts between both, business- as well as non-business customers and service providing organizations. The focus of the study has been put on the management of customer delight in customer care centers. As researchers have successfully demonstrated, customer delight can be

achieved through the concept of service excellence. Drawing on these findings, a comprehensive research model has been developed in order to investigate the prevailing understanding of customer delight, as well as to how and to what extent customer delight is operationalized in actual fact. Besides providing valuable insights into the subject and constituting an important supplementation to the existing research and literature, the study allows the authors to point out related research topics and to give valuable advice to business practitioners.

For the purpose of investigation, a large-scale exploratory study has been conducted on a national level. In order to derive the extensive data sets required for quantitative and qualitative analysis, and to ensure the relevance of results and findings, a cross-industry sample of 197 customer managers have been surveyed all across Germany via telephone calls. Besides asking customer managers for the importance that is assigned to customer delight as an organizational goal, it is investigated where they currently see the greatest weakness of the concept. As to date there is only little information on the measurement of customer delight and its efficiency, it is further surveyed whether customer delight is subject to measurement and, if so, how this is approached in different organizations. Moreover, since there is no sound information on the operation of customer delight management available yet, the authors put a strong focus on working with open-ended questions. To that effect, a first focus of analysis and presentation in terms of a qualitative content analysis has been put on the categorization of answers. In addition, individual results of quantitative questions will be used for supplementary purposes.

## THE RESULTS

The extensive analysis of data gathered in the course of the study, lead to a number of interesting results emphasizing the actuality and high relevance of the subject. As findings clearly indicate, customer delight is being considered an up-to-date and a top-three topic in most organizations included in the survey. However, there are still profound issues and weaknesses especially in the implementation and measurement of customer delight and its efficiency. Moreover, although managers largely demonstrated agreement on the importance of customer delight as in the creation of emotional customer loyalty, there still exist great differences in the understanding of the concept and approaches to the achievement of customer delight among customer managers. Although, for example, surprise is largely being considered a reliable means to delight only very few organizations know how to systematically trigger it. Further, there exist only marginal differences between the indications regarding relevance and performance of customer delight provided for business-to-business and business-to-consumer. In order to fully illustrate the diverse approaches to and different understandings of customer delight further analysis of the findings is currently being undertaken.

## CONCLUSION

The exploratory study (n=197) conducted for the purpose of investigation of the current status quo of customer delight and the organizational

management thereof, allows to look at the concept of customer delight from a corporate perspective, which until now had been left without regard entirely. By drawing up the status quo of the management of customer delight in customer care services, the study allows gaining deeper insights into the understanding, the actual operationalization and the measurement of customer delight. Besides providing new insights into the subject and constituting a valuable supplementation to existing research and literature on customer delight, the results of the study, further, allow to point out future research directions as well as to give valuable advice to business practitioners. As could be demonstrated, although the concept of customer delight is a hot topic and of high relevance in science as well as in business practice, there are still considerable discrepancies in its understanding, implementation and measurement.

# MAPPING SERVICE SYSTEMS AROUND THE CUSTOMER

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## ABSTRACT

A growing stream of research on the creation of value is based on the recognition that value is always co-created by the customer within and among service systems. This article focuses on visual representations of services systems. It examines existing representations and offers a new type of representation centred on the customer when he creates value by integrating various types of resources. Our representation fills a gap, is complementary to previous ones and contributes to refine the theory.

## INTRODUCTION

A growing stream of research in marketing is centred on the value creation process (Vargo and Lusch 2004; Prahalad and Ramaswamy 2004; Vargo, Maglio and Akaka 2008; Heinonen et al. 2010). It recognises the active role of the customer in value creation and states that value is created within and among service systems.

This stream has given rise to many contributions and detailed analyses, but mostly in written language. We argue that the visual language is important as well. Visual representations are a language for the eyes and are often quicker and clearer than words. They strive to be concise, in order to capture the essence of phenomena. They are “mechanism for capturing and sharing information” (Shostack 1992:75).

Very few visual representations of service systems have been provided up to now and we can observe a lack of customer’s perspective. Our aim is to visually represent this customer’s perspective, thus illustrating one of the main aspects of the value creation process. We will offer a new type of visual representation showing the customer when he creates value by integrating various types of resources. This representation fills a gap, is complementary to previous ones and contributes to refine the theory.

This article first presents the theoretical background and the existing visual representations of service systems. Then it proposes a new type of representation, illustrated with a practical example. Finally, the results are discussed and the implications examined.

## THEORETICAL BACKGROUND

This section introduces the concepts used to elaborate our new type of representation. The concept of value has always been used in economics and management, but has recently been renewed, particularly by Vargo and Lusch (2004, 2008). In 2008, they state that: “the customer is always a co-creator of value” (FP6); “the enterprise cannot deliver value, but only offer value propositions” (FP7); “value is always [...] determined by the beneficiary” (FP10). In short, the authors attribute the central role in value

creation to the customer.

The concept of service system, often used in services marketing, is receiving new attention and is defined by Maglio and Spohrer (2008). "Service systems are value-co-creation configurations of people, technology, value propositions [...], and shared information (e.g., language, laws, measures, and methods)". Value propositions "connect internal and external service systems". In short, the authors see value as being created in service systems, themselves composed of four types of elements, including value propositions.

Our visual representation mostly builds on the above concepts (value, service system), but also uses the following ones.

- Operant resources. "The application of operant resources [...] is the basis for all exchange". (FP1) (Vargo and Lusch 2008).
- Resource integration. "All [...] actors are resource integrators" (FP9), (Vargo and Lusch 2008).
- The sources of resources. In addition to the firm's and the customer's service system, these sources may be "other private, public or market-facing service systems" (Vargo et al. 2008).
- Social forces. "Value co-creation is shaped by social forces [...]". (Edvardsson et al. 2011).
- Stages of service provision, potential value. The stages are "facilities, transformation, usage" (Moeller 2008). Value is created in the usage stage, and is mostly a potential value in the other stages.

These concepts have been increasingly adopted by scholars (ex: McColl-Kennedy et al. 2012, Hibbert et al 2012, Baron and Warnaby 2011, Vargo and Lusch 2011, Grönroos 2011). We also take into account a study in tourism, which shows that the outdoor environment may sometimes be an important resource for customers, such as sunshine, footpaths, sceneries, villages (Durrande-Moreau et al. 2012).

## EXISTING VISUAL REPRESENTATIONS

Visual representations of service systems are not numerous. We have identified four representations, which can be presented in two types.

The first type shows the service system of a pure service provider (ex: a bank, a hotel), in action, when the service is produced.

- In 1977, Eiglier and Langeard published the model reproduced below (Figure 1). The model separates the elements visible to the customer from those invisible, thus delineating a front-office and a back-office with its organisation. In the front-office, the model distinguishes between several types of people (the focal

customer, other customers, contact personnel) and physical support (material elements). Interactions are important and symbolised by arrows. The customer is part of the process, he coproduces the service. This model has been popularised under the name of Servuction (Eiglier and Langeard 1987) and disseminated (ex: Kotler 2003).

- Edvardsson and Olsson (1996) present a model in the same vein, with four elements linked by interactions: customers, employees, physical and technical environment, and organisation and control.
- Alters (2008) presents a more detailed model, composed of nine elements. In short, we recognise the previous elements, completed by: strategies, infrastructure and environment.

In these representations (we can only provide one in this limited space), the role of the customer is recognised, but only as part of the service system of the service producer. Among the identified elements, the social world is distinguished from the material world, and from the organisation.

The second type of representation shows several service systems connected together, from a general perspective. It applies to all types of exchanges (not only pure services). The very broad aim is to explain value co-creation among service systems.

- Vargo et al. (2008) draw the service system of a firm connected to the service system of a customer. The two focal service systems are themselves connected with other service systems (public, private, market-facing). The model highlights the notions of value-in-exchange, value-in-use, value-in-context (Figure 2).

In this representation, the service system of the customer is shown but not in detail and not in action, rather as a potential for value creation

The two types clarify what is value creation in service systems (elements, interactions between elements, connections with other service systems). They adopt different perspectives, but not that of the customer, who is the prime resource integrator.

Figure 1: Representation by Eiglier and Langeard (1977)

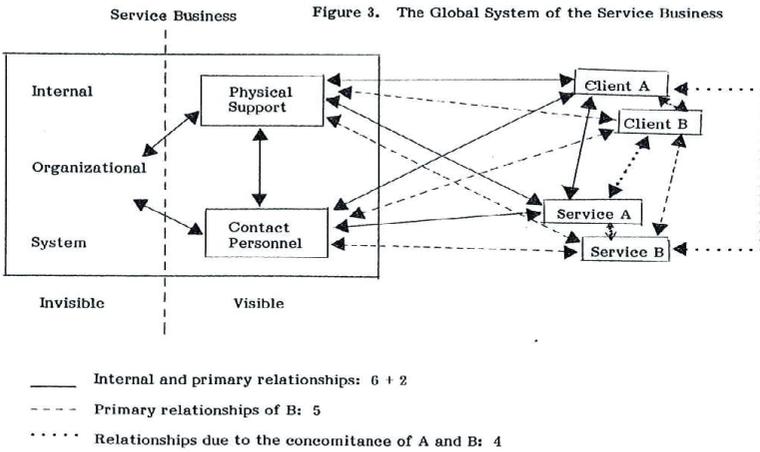


Figure 2: Representation by Vargo et al (2008)

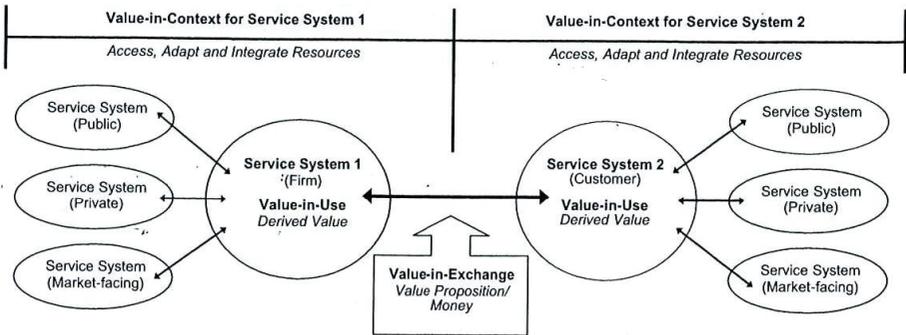


Figure 1 Value co-creation among service systems.

## PROPOSITIONS FOR A NEW VISUAL REPRESENTATION

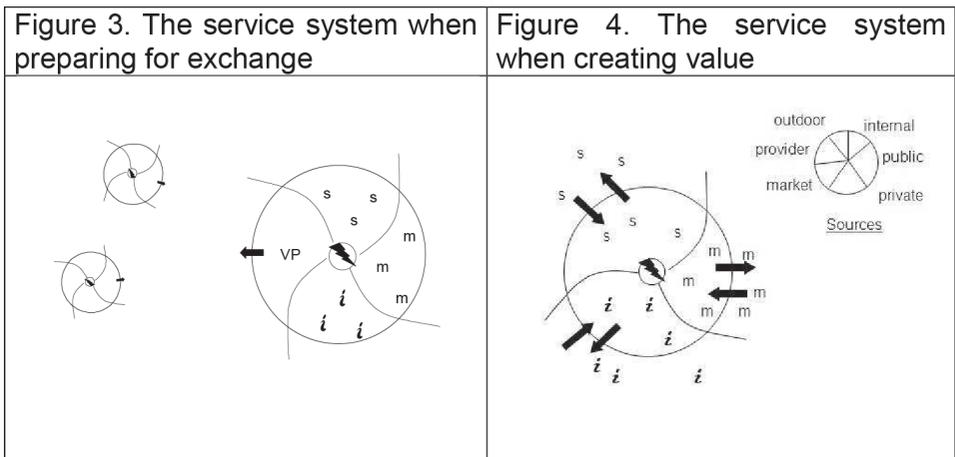
This section aims to show the service system of a customer, or of any type of actor, when creating value by integrating resources. In order to build the proposition we adopt the following symbols and words.

- The service system is symbolized by a spiral circle to evoke movement and activities.
- The elements are of four types, following Maglio and Spohrer (2008), but are called a bit differently, following the literature review: (1) social elements (symbolized by an s), (2) material elements (m), (3) information (i), (4) value propositions (VP).
- Exchanges and interactions are symbolized by arrows.

- Operant resources are symbolized by a flash of lightning in order to evoke energy, movement, motivations and intentions that make people engage in activities and interactions, in line with Baron and Warnaby (2011) and with Hibbert and al (2012).

Figure 3 represents an actor’s service system and its four types of element. Among them, the value proposition element means that the service system is ready to exchange, is at the proposition stage, and thus value is only a potential value (Moeller 2008). Other service systems are ready to exchange and are represented in smaller designs.

Figure 4 represents a service system in action, at the stage of value creation. Three types of elements are drawn and the element value proposition element is no more needed. Resources are exchanged and integrated (arrows). In addition, it is important to represent the source of resources (customer, firm, public, private, market-facing and outdoor environment), which can be added in the background.



The two figures constitute our proposition for mapping a service system in action, when an actor integrates resources and creates value. The proposition is applicable to the integration of an intangible product (see next), a tangible product (ex: a car), or a combination (ex: a telephone call). It works as well in situations without any commercial product (ex: an actor interacts with other people, or with nature).

### A PRACTICAL EXAMPLE

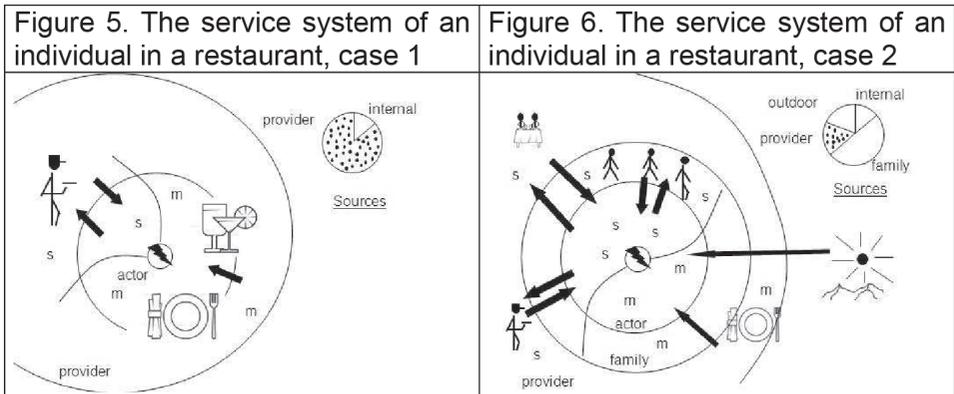
As a practical example, we can choose the value creation in a restaurant, where a variety of customer motivations and value creation processes can be observed. The restaurant case has some characteristics; it is a pure service, produced in presence of the customer, and hedonistic.

In order to illustrate value creation, two different types of customers are considered (“value is idiosyncratic, experiential, contextual and meaning laden”, Vargo and Lusch 2008). Since the customer enters the restaurant,

his service system is drawn as embedded into that of the provider (Edvardsson et al 2011). Little symbols representing the main integrated elements are also drawn, following some principles of the art of blueprinting (Shostack, 1992).

Figure 5 represents a customer coming to a restaurant mostly to eat good food (material elements). He is also sensitive to the warm contact with the waiter (social elements). The sources are, for a small part the personal resources of the customer (motivation for this meal) and for a great part those of the provider (food, employee, organisation).

Figure 6 represents a holidaymaker coming mostly to share a good time with his family. We can see him embedded inside the service system of his family, and also inside that of the restaurant. Social elements are the most important (exchanges with the family, with the waiter, with other customers). The man is also sensitive to the quality of food and to the mountain sceneries that he can admire from the terrace. The sources of resources are varied: personal, private (the family), from the provider (food, employee, other customers), from the outdoor environment.



The two figures illustrate different types of resource integration in the same restaurant. In figure 5, the customer integrates directly the resources of the provider. The situation is classic, dyadic, and well recognized in management. In figure 6, the customer interacts not only with the provider, but also with his family and the outdoor. This highlights that the provider has not only a direct classic role (providing a pleasant meal), but also the indirect role of providing favorable conditions for the family to feel togetherness and benefit from the beautiful sceneries. He facilitates the connection between several service systems. The proposed visual representation intends to illustrate this important phenomenon, understudied in management.

Also, we can see that the implementation of the representation to a specific case is richer than the generic representation itself (ex: figure 6 compared to figure 4). The implementation is not just an application, it forces us to reflect on the critical phenomena which are in action in each situation (value-in-use and in-context), and thus reveals a heuristic Power.

## DISCUSSION - LIMITATIONS

This attempt to map the process of value creation can be discussed in the light of previous works.

- It expresses in a language for the eyes the fundamental mechanism of customer integration that, up to now, was only expressed in words.
- It suggests to slightly modify some concepts. The four elements of service systems (by Maglio and Spoher 2008) are kept but in a different wording, more in line with the literature (see figure 3). The sources or resources (by Vargo et al 2008) are extended to include the outdoor environment (see figure 4).
- It takes three orientations already expressed by some scholars but not commonly shared. - It takes a general A2A orientation (actor to actor, Vargo and Lusch 2011), since our proposition is applicable to any actor, and not only producers and customers. - It highlights the importance of social forces (interactions between various types of people, embeddedness of an actor in a group), following the views of Edvardsson et al (2011) and McColl-Kennedy et al (2012). - It stresses that a part of the provider's role is to offer favourable conditions to the customer for accomplishing his own value creation strategy, thus not far from Grönroos (2011) and Hibbert and al (2012: 248): sometimes "the firm's role [...] becomes one of facilitator, supporter, and collaborator in customer value creation [...]."

The trial and error process of drawing the representation made clear that:

- It is necessary to distinguish between the stages (figure 3 and 4).
- It is important to represent at the same time the elements of the service system and the sources of resources.
- When studying a precise situation, the type or contact among services systems has to be specified. It may be embeddedness (in the restaurant), but also face-to-face or remote contact, single or repetitive contact, even potential contact (ex : guarantee to be assisted by a hot line if needed). This issue seems understudied.
- The notion of internal and external resources may raise some questions. Ex: is a family an internal or an external resource? In figure 6, we draw it as external but this is debatable depending on the situation and the approach used. Ex: is a tangible good bought by a customer internal or external? This is debatable depending on the lens used: the provider would say external, but the customer would say internal, "this is my property". Perhaps, the definitions in literature could be slightly changed.

- The notion of shared information is very broad and encompasses many ideas which would be important to classify.

Some limitations to this work may be seen. Compared to previous representations, we lack the interesting notions of back-office and of organisation (Eiglier and Langeard 1977), and the general vision of the market (Vargo et al 2008). This means that our proposition, customercentric, is complementary to previous ones; in the quest to draw the value creation process several perspectives are needed. Another limitation comes from our practical example, which is only one case among many, a case of “direct interaction” (Grönroos 2011), when the provider is undoubtedly a co-creator of value. Many other examples are to be studied in order to improve and validate our proposition.

## CONCLUSION – IMPLICATIONS – FURTHER RESEARCH

In this article, we have tried to set up a new type of visual representation of service system centred on the customer (instead of centred on a service provider, or from a general perspective). Two figures have been needed, one at the exchange stage, showing a customer ready to connect to other service systems, and another at the value creation stage, showing the customer when he combines his own resources (material, social, informational) to external resources of various sources (the focal firm, private, public, market-facing, outdoor environment). A practical example was given with an intangible product.

This new type of representation has theoretical and practical implications.

- It clearly illustrates the differences with the mainstream approach, when only production and consumption are taken into account (Vargo and Lusch 2011). With value creation, the scope is much broader. Not only the resources of one provider are taken into account, but also the internal resources of the customer, and other external resources.
- It adds to previous representations of service systems which are not centred on the customer and do not really illustrate the integration of resources. It expresses visually some important components of the value creation theory (FP6, FP7, FP10).
- In the same figure, it shows the notions of elements of a service system, of source of resources, and of type of contact, which are critical in the creation of value.
- It may be of help to practitioners in order to better recognise differences between customers, and better acknowledge that what they provide to the customer is often mostly facilitating conditions for generating his own value himself.

This article may stimulate other propositions for mapping service systems around the customer (ex: other ways to map it, other visual symbols), or to apply it to various situations. Since mapping helps to clarify

mechanisms, including complex ones, this article may open ways to study for example: - the integration of a product which has some tangible and intangible facets; - the value creation process of an actor at different successive moments (ex: in the course of a day); - or in situations when several external resources may be used at the same time (in a town, a mall, a tourist resort). Other avenues for further research may originate from the above discussion and consist in clarifying the notions of internal and external resources and of shared information.

## REFERENCES

Alters, S., (2008), *Service system fundamentals: Work system, value chain, and life cycle*, IBM Systems Journal, 47 (1) 71-85

Baron, S., and Warnaby, G., (2011), "Individual customers' use and integration of resources: Empirical findings and organizational implications in the context of value co-creation", *Industrial Marketing Management*, 40, 211-218

Durrande-Moreau, A., Edvardsson, B., Frochot, I., and Kreziak, D., (2012), "What drives customer value in composed service systems? The case of mountain resorts", 12th international research conference in service management, La Londe, IAE Aix, 152-172

Edvardsson, B., and Olsson, J., (1996), "Key Concepts for New Service Development", *The Service Industries Journal*, 16 (2) 140-164

Edvardsson, B., Tronvoll, B., and Gruber, T., (2011), "Expanding understanding of service exchange and value co-creation: a social construction approach", *Journal of the Academy of Marketing Science*, 39, 327-339

Eiglier, P., and Langeard, E., (1977), "Services as systems: marketing implications", in Eiglier, P., Langeard, E., Lovelock, C., Bateson, J., and Young, R., *Marketing Consumer Services: new Insights*, Marketing Science Institute, report 115, 83-103

Eiglier, P., and Langeard, E., (1987), *Servuction, le marketing des services*, McGraw-Hill, Paris

Grönroos, C., (2011), "Value co-creation in service logic: A critical analysis", *Marketing Theory*, 11 (3) 279-301.

Heinonen, K., Strandvik, T., Mickelsson, K., Edvardsson, B., Sundström, E., and Andersson, P., (2010), "A customer dominant logic of service", *Journal of Service Management*, 21, 4, 531-48

Hibbert, S., Winklhofer, H., and Temerak, M.S., (2012), "Customers as Resource Integrators: Toward a model of Customer Learning", *Journal of Service Research*, 15 (3) 247-261

Kotler, P., (2003), *Marketing Management*, 11th ed., Prentice Hall Pearson

## Education International

Maglio, P., and Spohrer, J., (2008), "Fundamentals of Service Science", *Journal of the Academy of Marketing Science*, 36, 18-20

McColl-Kennedy, J. R., Vargo, S. L., Dagger, T., Sweeney, J., Kasteren, Y., (2012), "Health Care Customer Value Cocreation Practice Styles", *Journal of Service Research*, 15 (4) 370-389

Moeller, S., (2008): "Customer Integration: A Key to an Implementation Perspective of Service Provision", *Journal of Service Research*, 11 (2) 197-210

Prahalad, C.K., and Ramaswamy, V., (2004), "Co-creation experiences: the next practice in value creation", *Journal of Interactive Marketing*, 18 (3) 1-10

Shostack, G.L., (1992), "Understanding services through blueprinting", *Advances in Services Marketing and Management*, 1, 75-90, JAI Press Inc.

Vargo, S., L., and Lusch, R., F., (2011), "It's all B2B...and beyond: Toward a system perspective of the market", *Industrial Marketing Management*, 40, 181-187

Vargo, S.L., and Lusch, R.F. (2008), "Service-dominant logic: continuing the evolution", *Journal of the Academy of Marketing Science*, 36 (1) 1-10

Vargo, S.L., and Lusch, R.F., (2004), "Evolving to a new dominant logic for marketing", *Journal of Marketing*, 68 (1) 1-17.

Vargo, S.L., Maglio, P.P., and Akaka, M.A., (2008), "On value and value co-creation: a service systems and service logic perspective", *European Management Journal*, 26 (3) 145-52

# MEDICAL TOURISM MOTIVES AND SERVICE QUALITY

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## ABSTRACT

The research investigated if medical tourists' service quality evaluation of foreign healthcare facilities differs depending on their motives for traveling abroad for medical care. Independent samples t-test results indicate that medical tourists who are motivated by the high cost of healthcare in the U.S., face a long waiting period for care, seek treatment not available in the U.S., want better care, or desire higher quality treatment have significantly different service quality evaluations than medical tourists not motivated by the same factor. Results suggest using motives to segment medical tourists and design targeted marketing communication.

## INTRODUCTION

The medical tourism industry is growing, diversifying and becoming more competitive (NY Daily News, 2012). Global revenue is expected to total 100 billion dollars in 2012, compared with 79 billion in 2010, and increase to 130 billion by 2015 (NY Daily News, 2012). Although medical tourism has emerged as a significant and rapidly growing phenomenon in the healthcare industry, limited academic research has been conducted on the topic (Crooks et al., 2010). Given the increasing number of medical tourists (NY Daily News, 2012), as well as the importance of delivering high quality service from both a consumer point of view and a competitive perspective (Lee and Spisto 2007), it is important to examine factors that may influence medical tourists' evaluation of medical tourism service quality. Research on the role of motives in tourism behavior and service quality evaluation suggests that a worthwhile area to investigate is determining if medical tourists' evaluation of the service quality of foreign healthcare facilities differs depending on their motives for traveling abroad for medical care. Hence, the purpose of this research was to compare medical tourists' service quality evaluation of overseas healthcare facilities in relation to their medical tourism motives. To date, the authors have not identified any studies that have investigated this research topic.

First, we discuss the concepts of motivation, medical tourism motives, service quality, and SERVQUAL. Second, we explain the research methodology. Third, we report the results and discuss the implications of the findings. Finally, we identify the limitations of the study and opportunities for future research.

### Motivation

Motivation is the "driving force within individuals that impels them to action" (Schiffman et al., 2010, p. 88). It occurs as the result of having an unfulfilled need that creates a state of tension that drives the individual to attempt to reduce or eliminate it to satisfy the need (Schiffman et al., 2010). Motivation sets the stage for forming people's goals (Pizam and

Mansfeld, 2000) and is reflected in both travel choice and behavior; as such it influences people's expectations, which in turn determine the perception of experiences. Motivation is therefore a factor in service quality evaluation (Lee et al., 2011).

In tourism research, motivation has been classified into two forces, which indicate that people travel because they are pushed and pulled to do so by "some forces" or factors (Dann, 1981). "Push" factors are defined as origin-related and refer to the intangible, intrinsic desires of the individual traveler, such as escape, rest and relaxation, whereas "pull" factors are defined as mainly related to the attractiveness of a given destination and tangible characteristics such as hotel and recreation facilities and cultural and historical sites (Uysal and Hagan, 1993).

### Medical Tourism Motives

Ehrbeck et al. (2008) identified five distinct segments of medical tourists based on their medical tourism motives: 1) Seek the world's most advanced technologies; 2) Desire better quality care than they could find in their home countries; 3) Face long waiting periods for medical care and want quicker access to medically necessary procedures; 4) Looking for lower cost medically necessary procedures; and 5) Want lower cost discretionary procedures. A number of other procedure-based motives have been referred to in the medical tourism literature, including gaining access to treatment not available in a medical tourist's home country, and lack of or inadequate insurance coverage (Reddy et al., 2010). The motives discussed in the literature are "push" factors for medical tourism (Crooks et al., 2010) since they influence (medical) tourists' decision to travel (abroad for medical care) in the first place (Klenosky, 2002) and represent intangible intrinsic desires of (medical) tourists (Kozak, 2002).

Given that medical tourists have a variety of motives for engaging in medical tourism, and past travel and tourism research has shown that motives influence travelers' evaluation of service quality (Lee et al., 2011), it is important to investigate the relationship between medical tourists' motives and their evaluation of medical tourism provider service quality. Understanding this relationship may help enhance medical tourism providers' marketing efforts since tourists' evaluation of service quality influences their destination choices, loyalty, and word-of-mouth behavior (Lee et al., 2011; Tian-Cole and Crompton, 2003).

### SERVICE QUALITY

Service quality has been described as a global judgment, or attitude, related but not equivalent to satisfaction, which results from the comparison of expectations with perceptions of service performance (Parasuraman et al., 1988). Expectations are formed as a result of consumers' previous experiences, word-of-mouth communication, news stories, marketing efforts by a specific service firm and competitors, and personal needs (Zeithaml et al., 2009). Once formed, expectations provide a standard of comparison against which consumers anticipate and judge a service firm's performance (Zeithaml et al., 2009). Perceptions of the service actually

delivered are seen as a function of technical quality (what is delivered), functional quality (how it is delivered) and the service firm's image (Zeithaml et al., 2009).

Zeithaml et al. (2009) have suggested that consumers do not perceive service quality as a one-dimensional concept. Instead, their assessment of service quality includes their expectations and perceptions of multiple factors. More specifically, Parasuraman et al. (1988) have defined the service quality concept in terms of five major dimensions: 1) Tangibles, 2) Reliability, 3) Responsiveness, 4) Assurance, and 5) Empathy. Among these dimensions, reliability has been consistently shown to be the most important determinant of service quality, followed by assurance and responsiveness, with tangibles and empathy having the weakest influence on perceptions of service quality (Parasuraman et al., 1988).

## SERVQUAL

Research on service quality and its related dimensions by Parasuraman et al. (1988) led to the development of the SERVQUAL scale – the most widely used, valid, and generally accepted service quality measurement tool (Ladhari, 2009). SERVQUAL is a multi-item instrument, containing 22 pairs of items, for measuring the service expectation-perception gap using the five service quality dimensions described above (Parasuraman et al., 1988). Half of the items are intended to measure consumers' expected level of service for a particular industry (expectations), while the other 22 matching items are intended to measure consumer perceptions of the present level of service provided by a particular service firm (Zeithaml et al., 2009). Service quality is measured on the basis of the difference scores, i.e., gap scores, between the perceived level of service provided (perceptions) and the level of service that should be provided (expectations) across the five service quality dimensions.

Tourism studies have shown that different tourist motives lead to differences in how service quality is evaluated (Frochot, 2004; Strombeck and Wakefield, 2008). In line with this research, we propose that medical tourists' evaluation of foreign healthcare facility service quality will vary depending on their motives for traveling abroad for medical care.

## METHODOLOGY

Data were collected via an online survey of a convenience sample of 219 U.S. consumers, who had engaged in medical tourism. The sample had the following predominant demographic characteristics: 58 percent female, average age 36, 55 percent married, 34 percent undergraduate degree, 30 percent graduate degree, and median annual household income before taxes of \$60,000. Thirty percent of the sample resided in the Southern region of the U.S. and 29 percent lived in the West.

## MEASURES OF SERVICE QUALITY AND MOTIVES

Babakus and Mangold's (1992) hospital services SERVQUAL scale, a valid and reliable instrument for measuring patients' evaluation of hospital

service quality, was used to measure medical tourists' evaluation of foreign healthcare facility service quality. The scale consists of 15 pairs of matching expectation/perception items representing all five dimensions of service quality. In our study, the scale was modified to reflect the behavioral context of medical tourism. Similar to Babakus and Mangold, the scale items were measured on a 5-point Likert-type scale anchored by "Strongly Disagree" and "Strongly Agree." Consistent with Parasuraman et al.'s approach, medical tourists' evaluation of service quality was measured on the basis of gap scores, i.e., perceptions minus expectations, across the five service quality dimensions.

In a closed-ended question, respondents were asked to indicate their reasons for traveling abroad for medical care. The response options were: 1) high cost of the treatment, 2) long waiting period, 3) treatment is not available, 4) want better medical care, 5) want higher quality treatment, 6) want most advanced technology, and 7) other. The six specific procedure-based motives were included in the survey instrument as a result of being commonly cited in the medical tourism literature.

## RESULTS

Independent samples t-tests were used to assess whether there were significant differences in U.S. medical tourists' evaluation of overseas service quality, along Parasuraman et al.'s (1988) five service quality dimensions, based on their motives for traveling abroad for medical care.

Gap scores were calculated for each service quality dimension, and six different group comparisons were analyzed using the categories of motives noted above. The analysis showed that medical tourists' service quality evaluation differed depending on their medical tourism motives.

The first comparison was between medical tourists who engaged in medical tourism because of the high cost of treatment in the U.S. and those not motivated by this reason. As shown in Table 1, medical tourists motivated by the high cost of healthcare in the U.S. rated reliability significantly lower, i.e., higher negative service quality gap, ( $t > 1.96$ ,  $p < .05$ ) than those not influenced by this factor.

Table 1: High Cost of Treatment Service Quality Gap Comparison

SERVQUAL Dimension	Motive High Cost	N	SQ Gap Mean	Std. Dev.	<i>t</i>	Sig.
Tangibles (3 items; $\alpha = .76$ )	Yes	136	-.65	2.14	-1.30	.194
	No	49	-.16	2.46		
Reliability (3 items; $\alpha = .77$ )	Yes	132	-.99	2.31	-2.43	.016
	No	49	-.08	2.06		
Responsiveness (3 items; $\alpha = .70$ )	Yes	137	-.45	2.39	-1.27	.207
	No	50	.04	2.25		
Assurance (4 items; $\alpha = .79$ )	Yes	131	-.99	2.84	-.59	.559
	No	49	-.71	2.84		
Empathy (2 items; $\alpha = .60$ )	Yes	137	-.30	1.39	-.95	.344
	No	49	-.08	1.53		

Table 2: Long Waiting Period Service Quality Gap Comparison

SERVQUAL Dimension	Motive Long Wait	N	SQ Gap Mean	Std. Dev.	<i>t</i>	Sig.
Tangibles (3 items; $\alpha = .76$ )	Yes	51	.00	2.26	1.97	.051
	No	134	-.72	2.20		
Reliability (3 items; $\alpha = .77$ )	Yes	50	.12	1.79	3.67	.000
	No	131	-1.08	2.36		
Responsiveness (3 items; $\alpha = .70$ )	Yes	52	.35	1.70	2.88	.005
	No	135	-.58	2.52		
Assurance (4 items; $\alpha = .79$ )	Yes	51	-.12	2.19	2.78	.007
	No	129	-1.23	3.00		
Empathy (2 items; $\alpha = .60$ )	Yes	52	.19	1.41	2.67	.008
	No	134	-.42	1.39		

In Table 2 above, the results of the second motive-based comparison are presented. Medical tourists spurred by a long waiting period for treatment evaluated reliability, responsiveness, assurance, and empathy significantly higher ( $t > 1.96$ ,  $p < .05$ ) than individuals not motivated by this reason. For three of the dimensions, i.e., reliability, responsiveness, and empathy, there was a positive service quality gap as service quality perceptions were higher than expectations.

The results of the third comparison showed that medical tourists seeking treatment not available in the U.S. rated tangibles significantly higher ( $t > 1.96$ ,  $p < .05$ ) than those without this motive. See Table 3. In this case, there was a positive service quality gap.

Table 3: Treatment Not Available Service Quality Gap Comparison

SERVQUAL Dimension	Motive	N	SQ Gap	Std.	<i>t</i>	Sig.
	Not Avail.		Mean	Dev.		
Tangibles (3 items; $\alpha=.76$ )	Yes	44	.11	2.19	2.18	.031
	No	141	-.72	2.21		
Reliability (3 items; $\alpha=.77$ )	Yes	45	-.38	2.28	1.26	.211
	No	136	-.87	2.27		
Responsiveness (3 items; $\alpha=.70$ )	Yes	45	-.22	1.88	.32	.748
	No	142	-.35	2.49		
Assurance (4 items; $\alpha=.79$ )	Yes	43	-.30	2.48	1.64	.103
	No	137	-1.12	2.91		
Empathy (2 items; $\alpha=.60$ )	Yes	46	-.20	1.26	.28	.777
	No	140	-.26	1.48		

Table 4: Better Care Service Quality Gap Comparison

SERVQUAL Dimension	Motive	N	SQ Gap	Std.	<i>t</i>	Sig.
	Better Care		Mean	Dev.		
Tangibles (3 items; $\alpha=.76$ )	Yes	65	-.20	2.06	1.44	.153
	No	120	-.69	2.31		
Reliability (3 items; $\alpha=.77$ )	Yes	61	-.26	2.14	2.06	.041
	No	120	-.99	2.31		
Responsiveness (3 items; $\alpha=.70$ )	Yes	65	.14	1.81	2.18	.031
	No	122	-.57	2.57		
Assurance (4 items; $\alpha=.79$ )	Yes	63	-.35	2.93	1.99	.048
	No	117	-1.22	2.84		
Empathy (2 items; $\alpha=.60$ )	Yes	65	-.08	1.46	1.20	.232
	No	121	-.34	1.40		

In the fourth comparison (see Table 4 above), medical tourists looking for better medical care judged reliability, responsiveness, and assurance significantly higher ( $t > 1.96$ ,  $p < .05$ ) than persons not driven by this reason with responsiveness having a positive service quality gap.

The results of the fifth comparison, shown in Table 5, revealed that medical tourists seeking higher quality treatment rated responsiveness significantly higher ( $t > 1.96$ ,  $p < .05$ ) than those not prompted by this motive. There was a positive service quality gap for this dimension.

Table 5: Higher Quality Treatment Service Quality Gap Comparison

SERVQUAL Dimension	Motive High Quality	N	SQ Gap Mean	Std. Dev.	<i>t</i>	Sig.
Tangibles (3 items; $\alpha=.76$ )	Yes	62	-.45	2.07	.29	.772
	No	123	-.55	2.32		
Reliability (3 items; $\alpha=.77$ )	Yes	60	-.38	1.88	1.52	.131
	No	121	-.93	2.43		
Responsiveness (3 items; $\alpha=.70$ )	Yes	63	.11	1.86	1.99	.048
	No	124	-.54	2.55		
Assurance (4 items; $\alpha=.79$ )	Yes	62	-.45	2.47	1.70	.091
	No	118	-1.16	2.99		
Empathy (2 items; $\alpha=.60$ )	Yes	63	-.03	1.38	1.48	.140
	No	123	-.36	1.44		

In the final comparison, presented in Table 6, no significant differences ( $t < 1.96, p > .05$ ) were found in service quality evaluation between medical tourists wanting the most advanced technology and medical tourists not traveling for this reason.

Table 6: Advanced Technology Service Quality Gap Comparison

SERVQUAL Dimension	Motive Adv. Tech.	N	SQ Gap Mean	Std. Dev.	<i>t</i>	Sig.
Tangibles (3 items; $\alpha=.76$ )	Yes	36	-.17	1.96	1.06	.292
	No	149	-.60	2.29		
Reliability (3 items; $\alpha=.77$ )	Yes	32	-.44	2.29	.85	.399
	No	149	-.81	2.27		
Responsiveness (3 items; $\alpha=.70$ )	Yes	35	-.31	2.59	.02	.985
	No	152	-.32	2.31		
Assurance (4 items; $\alpha=.79$ )	Yes	36	-.31	2.79	1.45	.148
	No	144	-1.07	2.83		
Empathy (2 items; $\alpha=.60$ )	Yes	35	-.14	1.40	.48	.631
	No	151	-.27	1.43		

## DISCUSSION AND IMPLICATIONS

This paper examined if medical tourists' evaluation of the service quality of overseas healthcare facilities differed depending on their motives for traveling abroad for medical care. The research revealed that medical tourists' service quality evaluation differed depending on their medical tourism motives. Medical tourists motivated by the high cost of healthcare in the U.S. rated reliability significantly lower than those not influenced by this factor. Those spurred by a long waiting period for treatment evaluated

reliability, responsiveness, assurance, and empathy significantly higher than individuals not motivated by this reason. Medical tourists seeking treatment not available in the U.S. rated tangibles significantly higher than persons without this motive. Individuals looking for better medical care judged reliability, responsiveness, and assurance significantly higher than those not driven by this reason. Those desiring higher quality treatment assessed responsiveness significantly higher than medical tourists without this motive. Our results are consistent with previous research that found that different tourist motives lead to differences in service quality evaluation (Frochot, 2004; Strombeck and Wakefield, 2008). Hence, one aspect of understanding and managing medical tourists' service quality evaluation is determining their medical tourism motives.

When identifying potential medical tourist target markets, we recommend using motives as a segmentation variable. Our results suggest five potential motive segments: 1) high cost, 2) long waiting period, 3) treatment not available, 4) better medical care, and 5) higher quality treatment. Additionally, to meet the service quality expectations of the different segments, medical tourism providers need to understand and act on medical tourists' expectations in advance and if necessary, improve management skills, training programs and front-line employee service delivery attitudes and behaviors. Based on our findings, the service quality dimensions to initially focus on are reliability for the high cost segment, assurance for the long waiting period segment, and assurance and reliability for the better care segment since these dimensions have a negative service quality gap within their respective segments.

Segment-based targeted marketing communication should be designed for those segments whose expectations were exceeded for a particular service quality dimension. Our results suggest the dimensions to highlight in external marketing communication are reliability, responsiveness, and empathy for the long waiting period segment, tangibles for the treatment not available in the U.S. segment, and responsiveness for both the better medical care and higher quality treatment segments.

## LIMITATIONS AND FUTURE RESEARCH

Our research has several limitations. First, the research focused on motives that are push factors for engaging in medical tourism. Future research should investigate how pull factors influence medical tourists' service quality evaluation. Second, the sample of medical tourists was limited to U.S. residents. Since consumers from different cultural backgrounds have different expectations and perceptions of service quality (Donthu and Yoo, 1998; Furrer et al., 2000), it would be prudent to study how medical tourists from different countries evaluate service quality. Third, since differences in the importance of travel motives have been found across different nationalities (Kozak, 2002), cross-cultural medical tourism research is also warranted to investigate if there are similarities and differences in the importance of medical tourism motives from one country to the next. Lastly, the conclusions about medical tourists in this research should be interpreted cautiously since the study was not based on a representative sample of the population. Probability sampling should be used in future

survey-based studies.

## REFERENCES

- Babakus, E. and Mangold, W.G. (1992) 'Adapting the SERVQUAL scale to hospital services: an empirical investigation', *Health Services Research*, Vol. 26, No. 6, pp.768-786.
- Crooks, V.A., Kingsbury, P., Snyder, J. and Johnston, R. (2010) 'What is known about the patient's experience of medical tourism? A scoping review', *BMC Health Services Research*, Vol. 10, No. 266, pp.1-12.
- Dann, G.M. (1981) 'Tourism motivations: an appraisal', *Annals of Tourism Research*, Vol. 8, No. 2, pp.189-219.
- Donthu, N. and Yoo, B. (1998) 'Cultural influences on service quality expectations', *Journal of Service Research*, Vol. 1, No. 2, pp.178-186.
- Ehrbeck, T., Guevara, C. and Mango, P.D. (2008) 'Mapping the market for medical travel', *The McKinsey Quarterly*, May, pp.1-10.
- Frochot, I. (2004) 'An investigation into the influence of the benefits sought by visitors on their quality evaluation of historic houses' service provision', *Journal of Vacation Marketing*, Vol. 70, No. 3, pp.223-237.
- Furrer, O., Liu, B.S.C. and Sudharshan, D. (2000) 'The relationships between culture and service quality perceptions: basis for cross-cultural market segmentation and resource allocation', *Journal of Service Research*, Vol. 2, No. 4, pp.355-371.
- Klenosky, D.B. (2002) 'The "pull" of tourism destinations: a means-end investigation', *Journal of Travel Research*, Vol. 40, No. 4, pp.396-403.
- Kozak, M. (2002) 'Comparative analysis of tourist motivations by nationality and destinations', *Tourism Management*, Vol. 23, No. 3, pp.221-232.
- Ladhari, R. (2009) 'A review of twenty years of SERVQUAL research', *International Journal of Quality and Service Sciences*, Vol. 1, No. 2, pp.172-198.
- Lee, C. and Spisto, M. (2007), 'Medical tourism, the future of health services', in S. K. M. Ho (ed.), *Proceedings of the 12th international conference on ISO 9000 and TQM*, Taichung, Taiwan, 9-11 April.
- Lee, S., Jeon, S. and Kim, D. (2011) 'The impact of tour quality and tourist satisfaction on tourist loyalty: the case of Chinese tourists in Korea', *Tourism Management*, Vol. 32, No. 5, pp.1115-1124.
- NY Daily News (2012) 'Medical tourism skyrockets; three million patients go abroad for medical treatment every year', *NYDailyNews.com*, 21 May. Available online at: [http://articles.nydailynews.com/2012-05-21/news/31804323\\_1\\_medical-tourism-foreign-patients-dubai](http://articles.nydailynews.com/2012-05-21/news/31804323_1_medical-tourism-foreign-patients-dubai) (accessed on

## MARKET ORIENTATION IN PUBLIC TRANSPORT DYADS

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### INTRODUCTION

The fragmentation of public sector organizations has led to many public services being operated either by public sector companies or under contract to public authorities (e.g. Pucher et al., 2005). Naturally, the inter-organizational constellation that becomes required in order to deliver the services also entails challenges for the management and strategies of these dyads. One such strategy is to be market oriented. Arguments for a market-oriented approach have been raised both from a public interest point of view and from a competitive market perspective. Market-orientation has been shown to improve performance in both private (Kirca et al., 2005) and public (Cervera et al., 2001; Jas and Skelcher, 2005) organizations. Furthermore, market orientation in inter-organizational relationships has recently been addressed by researchers (e.g. Elg, 2002). However, empirical research is scarce, and contexts where private and public interests are combined in public procurement practices have not been addressed in market orientation research. One such context is the service of public transport in Sweden. Increasing the market-orientation of public transport entails designing the system and delivering the service from the traveler's point of view. However, as an effect of its history and development, in close connection with the policy context and its industry structure, the public transport setting is complex; something which has implications for market-orientation efforts. This means that the industry is under the influence of both the market and public interests, for instance environmental and social considerations. Thus, efforts to increase market-orientation involve several actors: i.e. operators, public transport authorities, politicians, infrastructure providers, and policymakers. In many developed countries today, interest in using procurement processes to deliver public transport is increasing (e.g. Pucher, 1995). Therefore, the topic of market orientation in the context of public procurement is highly relevant and urgent for researchers to address.

A market oriented approach in the public transport industry has been called for by transport organizations as well as researchers. However, in order for market orientation to be more than a spoken strategy on the public transport scene, there are several issues that need to be addressed, not the least by public transport and market orientation researchers. Some aspects of market orientation have been addressed to in public transport research, but the concept of market orientation has just recently been introduced (Molander et al., 2011). Moreover, the importance of interorganizational dissemination between transportation decision-makers, researchers, operators and public transport authorities has been acknowledged in industry research (Molander et al., 2011). In this study, we conduct empirical research on market oriented activities in the dyadic procurement context of Swedish public transportation. The aim of the study is to acquire knowledge on how market oriented activities are approached in public transportation dyads and what obstacles and

possibilities that the context sets for market orientated activities. As our scale not only measure market orientation but also specify the dimensions of market orientation, the results are used to discuss the validity of the elements of market orientation in a dyadic, interorganizational context. Our study contributes with knowledge of what drives market orientation in dyadic settings. It also introduces an instrument for measuring the market orientation in and within dyads. Moreover, the study gives insights to the nature of the relationship in public-private dyads delivering public services as the results are discussed from an agency theory and a network theory perspective. In addition, the study offers managerial insights into the appropriateness and effectiveness of the prevailing system used to deliver public services.

## THEORETICAL FRAMEWORK

In the last decades, there have been important drivers of change in public sector procurement that reflect new strategic directions, new policies and new practices in delivering public service (Boivard, 2006). One key driver of changing procurement approaches is the nature of organizational relationships in the procurement process. Traditionally, procurement of public services entails a process where the 'principal' tries to procure services from the 'agent', using contract mechanisms to curb opportunistic behavior and to reduce any agent advantage of asymmetric access to information. It is indicated that the nature of public procurement approaches has made a dramatic switch, from being adversarial to being more collaborative (Boivard, 2006). In this new approach, both parties expect benefits from the partnership, or so called 'collaborative advantage' (Kanter, 1994). The ongoing changes of public sector procurement practices are challenging existing views on market management, involving approaches to market orientation.

As public services are increasingly delivered through various partnerships between public and private organizations, the market orientation of these dyads or networks is an emerging and relevant topic. Market orientation has predominantly been studied within marketing and consumer research. More recently, attention has been drawn to market orientation in non 'market' organizations, such as public organizations (e.g. Cervera et al., 2001) and non-profit organizations (e.g. Macedo and Pinho, 2004). Also, the need for research on market orientation in networks, dyads and value chains has been recognized (Elg, 2002), although there are few following empirical studies. Market orientation in dyads has been studied through different approaches. One is market orientation within a dyad, meaning how the MO of an individual organization affect or is affected by the other organization(s) in the dyad or network (e.g. Blesa and Bigné, 2005). One conclusion is that manufacturers' adoption of market leads to increased dependence and satisfaction among distributors (Blesa and Bigné, 2005). However, the results also show that distributor satisfaction is adversely affected by the dependence on a manufacturer, which would make it appropriate to adopt an explanatory perspective including agent theory (e.g. Eisenhardt, 1989). It is also suggested that there is a positive relationship between a supplier's and a distributor's internal market orientation (Siguaw et al., 1998, 1999; Baker et al., 1999).

Another focus is the market orientation of a dyad or network as a unit. Neither of these perspectives fully captures the combined market oriented activities necessary to create a unit market orientation. In studies of market orientation and dyads, the public-private dyad is not represented. Marketing and management studies which investigating public-private partnerships are mainly concerned with the cooperative ventures aimed at creating mutual benefits. Dyads in the procurement of public services have not been addressed in market orientation research.

## RESEARCH METHODOLOGY AND CONSTRUCT DEVELOPMENT

In this study, the market orientation of and within public procurement dyads is measured by drawing on the MARKOR scale (Kohli, Jaworski and Kumar, 1993), that we adapted to an interorganizational, dyadic setting. Market-orientation is defined as the generation and dissemination of market intelligence by organizations, as well as responses to it (Kohli and Jaworski, 1990). These elements are the basis for the statements in the MARKOR scale (Kumar, Kohli and Jaworski, 1993). These elements are considered to be valid also in interorganizational contexts (Elg, 2002), and are therefore chosen to form the basis for the dyadic MARKOR scale.

The MARKOR scale, which constitutes the basic construct of the interorganizational MARKOR scale used in this study, has received widespread support for its reliability and validity (e.g. Macedo and Pinho, 2006). The MARKOR scale has been used in many studies of different types of organizations and industries which has shown its universal applicability (Kara et al., 2005). The MARKOR scale consists of three multi-items sub-scales measuring the generation of market intelligence, the dissemination of generated intelligence and organizationwide responsiveness. In this study, the number of original statements is reduced and statements regarding intelligence generation, intelligence dissemination and responsiveness from an interorganizational perspective are added. The statements made in the original MARKOR scale concern the activities that are considered to generate intelligence, disseminate intelligence and to be responsive to this intelligence (Kohli and Jaworski, 1993). In this study, the activities identified by Kohli and Jaworski (1993) are captured in the statements regarding intra- and interorganizational market orientation. The changes made to the original statements aim at capturing the interorganizational level of market orientation. Thus, the interorganizational MARKOR scale is not a refinement of the MARKOR scale concerning the elements of market orientation, but a contextual adaptation of the instrument. The stream of research on market orientation has also identified a number of antecedents of market orientation. The antecedents identified by Kohli and Jaworski (1993) are also included in our questionnaire and adapted to the interorganizational context in the same manner as the MARKOR sub-scales. As there are several elements included in the questionnaire – intra- and interorganizational statements of intelligence generation, dissemination and responsiveness as well as intra- and interorganizational statements on antecedents of market orientation – the number of statements on intraorganizational market orientation used in the original MARKOR scale have been reduced. Statements were excluded on basis of similarity to other included questions. This was made in order to reduce

the risk of fatigue effects.

The Likert scale was chosen for this study as it is a widely used measure of attitudes, is easy to administer (Zikmund et al., 2012) and easily understood by respondents. Individual items were examined for correlation to total scores along each related individual variable to intelligence generation. The objective of this procedure is to establish that each item contributed to the same subscale and established the homogeneity and internal consistency of the sub-scales. Those items presenting a low correlation with the total score and those indicators below a sudden drop off in the total item correlation were eliminated.

The reliability of each scale was estimated by computing its Cronbach's alpha coefficient. In early stages of basic research, reliabilities of 0.60 are considered sufficient (Nunnally, 1978; Churchill 1979). The study is a first attempt of using an interorganizational MARKOR scale. Also, to our knowledge, the empirical context has not been previously surveyed through the measurement of market orientation. The market orientation score is the unweighed sum of the score on the subscales, divided by the number of subscales. The market orientation score was originally merely the unweighed sum of the scores on the subscales (Kohli and Jaworski, 1993). Dividing the total score with the number of sub-scales gives a MO-score between 0 and 1. This elaborated procedure enables comparison of MO-measurements between studies using different adaptations of the MARKOR scale

## SAMPLE AND DATA COLLECTION

We use the dyadic MARKOR scale to survey the market orientation of dyads consisting of public transport authorities and contracted operators, targeting employees with managerial and marketing responsibilities. As a first step in the sampling procedure, all registered public transport authorities (PTA's) in Sweden were contacted in the spring of 2011 and asked to participate in the survey. The reasonable number of authorities, 26, enabled a total population sampling approach in this first step of the procedure. The second step was to recruit public transport operators to participate in the study. The registered public transport organizations well outnumber the PTA's. As we wanted to generate two groups of respondents that were relatively similar in size and form dyads that are suitable for the study of interorganizational market orientation, a type of respondent driven sampling was used. Respondent driven sampling and chain referral sampling (e.g. Heckathorn, 1997) are sampling techniques that originate from snowball sampling (Goodman, 1961). Although various developments of the technique have been made, the core of the technique is to recruit new respondents through the initial respondents. Typically, the recruiting process repeats iteratively, thereby forming long referral chains. In this study however, the referral chains are short but numerous, as each of the initial 26 respondents were asked to provide contact information to the operators with whom they form their primary partnerships, as well as other members of their organization that they consider have the knowledge needed to answer the questionnaire. The method is often used to reach "hidden populations", or respondents that are difficult to reach through

other channels (Heckathorn, 1997). In this study, it was of importance to identify those operators who work in close collaboration with the PTA's. The PTA's have knowledge of what operators that are involved in the primary relationships, which made the referral method suitable for this study. Generally, this method is often in qualitative studies. This study is using an adaptation of the MARKOR scale, which is an instrument that is well suited for both qualitative and quantitative studies. In this study, our aim is to identify important qualitative aspects of interorganizational market orientation through an explorative, quantitative research.

A 56, 6 % response rate generated 47 respondents from public transport authorities and 40 respondents from operators. Dyads are considered to form as PTA's and operator/s contract to deliver public transport to specified geographical areas of the country. Therefore, PTA's and operators can be part of several dyads.

## RESULTS

Data is presented and discussed on different levels of analysis. Data on the overall market orientation of the industry and the market orientation of PTA's and operators precede a classification where respondents are divided into groups of high and low market orientation. Correlations are used to discuss the validity of the elements of the concept of market orientation and interorganizational market orientation.

Overall, the mean scores received on the dyadic MARKOR scale do not differ significantly between the two groups operators and PTA's (Table 1). Index for subscales and total MO-score also reveal that there is no significant difference in mean scores between intra- and interorganizational market orientation.

Table 1. MARKOR INDEX TABLE

INDEX		0=PTA 1=Operator 2=Overall	MEAN	STD.DEV.
IG*	IG1*+IG2*+IG4*	0(47)	3,553	0,730
		1(40)	3,292	0,848
		2(87)	3,433	0,793
IG	IG1*+IG2*+IG3+IG4*+IG5	0	3,600	0,599
		1	3,150	0,819
		2	3,393	0,739
ID*	ID6*+ID8*+ID10*	0	3,546	0,737
		1	3,491	0,847
		2	3,521	0,785
ID	ID6*+ID7+ID8*+ID9+ID10*	0	3,472	0,665
		1	3,380	0,774
		2	3,430	0,714
R*	R11*+R12*+R14*+R16*+R18*	0	3,681	0,515
		1	3,865	0,677
		2	3,766	0,599
R	R11*+R12*+R13+R14*+R15 +R16*+R17+ R18*+R19	0	3,679	0,471
		1	3,717	0,646
		2	3,670	0,555
MO*	IG*+ID*+R*	0	3,593	0,537
		1	3,549	0,693
		2	3,573	0,611
MO	IG+ID+R	0	3,584	0,469
		1	3,416	0,660
		2	3,506	0,568

The scores on each of the elements of market orientation and dyadic market orientation were divided in two groups, high (2) and low (1). This was done in order to see if the MO-score is consistent across the different elements. It also allows a correlation test between intra- and inter-MO scores. The mean scores indicate evenly high/low scores across the elements of market orientation. The correlation between the scores of intra-MO and inter-MO is 0.5

**Table 2. Means High/Low MO Groups**

High (2) and low (1) MO Groups	MO	MO	Intelligence generation	Intelligence dissemination	Response
1	Mean	3,1177	2,9318	3,0303	3,3909
	N	.44	44	44	44
	Std. Deviation	,43732	,63319	,65816	,50108
2	Mean	4,0393	3,9457	4,0233	4,1488
	N	43	43	43	43
	Std. Deviation	,35756	,58613	,55585	,42335
Total	Mean	3,5732	3,4330	3,5211	3,7655
	N	87	87	87	87
	Std. Deviation	,61061	,79259	,78537	,59861

Index-correlations show a high correlation between overall MO and the sub-scales, both for intra-and interorganizational MO (table 4 and table 5).

**Table 3. Means High/Low dyadic MO groups**

High (2) and low (1) MO Groups	MO	IGdyad	IDdyad	Rdyad	MO+dyad	Dyad
1	Mean	2,9773	2,9909	3,3636	3,1106	3,0682
	N	44	44	44	44	44
	Std. Deviation	,63277	,58660	,48246	,43481	,59424
2	Mean	3,8186	3,8791	4,0362	3,9113	3,7907
	N	43	43	43	43	43
	Std. Deviation	,58524	,53299	,39820	,36693	,60977
Total	Mean	3,3931	3,4299	3,6960	3,5063	3,4253
	N	87	87	87	87	87
	Std. Deviation	,73923	,71432	,55516	,56780	,70011

**Table 4. Correlation index intra-MO dyadic MO**

	R	ID	IG	MO
R	1,00	0,61	0,44	0,84
ID		1,00	0,61	0,87
IG			1,00	0,79
MO				1,00

**Table 5. Correlation index**

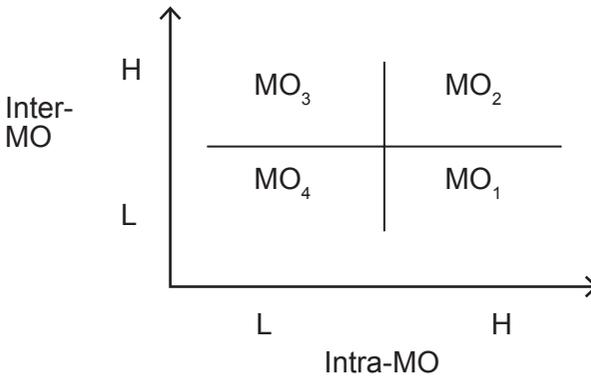
	DYAD	R	ID	IG	MO
R		1,00	0,61	0,44	0,78
ID			1,00	0,61	0,90
IG				1,00	0,85
MO					1,00

## DISCUSSION

It is reasonable to assume that dyads in general and procurement dyads in particular, face additional complexity and difficulty in pursuing market orientation than a single organization. However, as indicated by results, neither operators nor PTA's perceive the interorganizational market orientation to be lower than the intraorganizational market orientation. This might be due to limitations of the dyadic MARKOR scale, indicating that the instrument has not fully captured the complexity of the interorganizational relationship. It might also be due to possible positive effects of dyadic relationships that foster market oriented activities.

More research on inter- and intraorganizational MO is needed to establish the nature of the relationship that is indicated. Moreover, data also include respondents with a high interorganizational MO-score and a low intraorganizational score and vice versa.

Figure 1



Qualitative research into the different groups is important to determine what factors that drive and inhibit market oriented activities. For organizations exhibiting MO1, the obstacles of achieving interorganizational market orientation is of particular interest. These cases show greater differences in intra- and interorganizational MO than the group with reversed scores (MO3). This may be an indication that intraorganizational market orientation is a driver for interorganizational MO. Studies of the group of organizations that are score high on both inter- and intra-MO can contribute with insights on the nature of the relationship between inter- and intra-MO as well as knowledge on what drives market orientation of and within dyads.

## SUMMARY

Public transport is changing rapidly due to changes in regulation and tendering processes worldwide. Many public transport actors tackle these changes through increased market orientation.

Market orientation is commonly defined as an organizationwide devotion to create superior customer value through responding to market intelligence which has been generated and disseminated throughout the organization (Kohli and Jaworski 1990; Narver and Slater, 1990). However, as in the public transport sector, dyads or networks rather than single organizations are increasingly becoming the relevant unit of analysis (Day, 1994; Elg, 2000). In such settings, the operationalization of the market orientation is different compared to the single organization case, both theoretically and practically. Dyadic market orientation has hitherto been studied with a focus either on the orientation within the dyad or on the market orientation of the dyad. However, research is limited and has not addressed these issues in combination, nor has the public transport context been attended to.

The present study investigates market orientation within and of dyads. By drawing on the MARKOR scale (Kohli, Jaworski and Kumar 1993), we develop a market orientation scale adapted to interorganizational, dyadic settings. We use this dyadic MARKOR scale to survey the market orientation of dyads consisting of public transport authorities and contracted operators, targeting employees with managerial and marketing responsibilities. A 56, 6 % response rate generated 47 respondents from public transport authorities and 40 respondents from operators. As our scale not only measures market orientation but also specifies the dimensions of market orientation, the results are used to discuss the validity of the elements of market orientation in a dyadic, interorganizational context. Our study contributes with knowledge of what drives market orientation in dyadic settings and of the public transport setting implications for market oriented activities. It also introduces an instrument for measuring the market orientation in and within dyads. In addition, the study offers managerial insights into the appropriateness and effectiveness of the current system used to deliver market oriented public transport services.

## REFERENCES

- Baker, T. L., Simpson, P. M., & Siguaw, J. A. (1999). The impact of suppliers' perceptions of reseller market orientation on key relationship constructs. *Journal of the Academy of Marketing Science*, 27(1), 50-57.
- Bigne, E., & Blesa, A. (2003). Market orientation, trust and satisfaction in dyadic relationships: A manufacturer-retailer analysis. *International Journal of Retail & Distribution Management*, 31(11), 574-590.
- Cervera, A., Molla, A., & Sanchez, M. (2001). Antecedents and consequences of market orientation in public organisations. *European Journal of Marketing*, 35(11/12), 1259-1288.

- Day, G. S. (1994). The capabilities of market-driven organizations. *The Journal of Marketing*, 37-52.
- Eisenhardt, K. M. (1989). Agency theory: An assessment and review. *Academy of Management Review*, 57-74.
- Elg, U. (2002). Inter-firm market orientation: Its significance and antecedents in distribution networks. *Journal of Marketing Management*, 18(7-8), 633-655.
- Elg, U. (2007). Market orientation as inter-firm cooperation: An international study of the grocery sector. *European Management Journal*, 25(4), 283-297.
- Elg, U. (2008). Inter-firm market orientation and the influence of network and relational factors. *Scandinavian Journal of Management*, 24(1), 55-68.
- Goodman, L. A. (1961). Snowball sampling. *The Annals of Mathematical Statistics*, 32(1), 148-170.
- Heckathorn, D. D. (1997). Respondent-driven sampling: A new approach to the study of hidden populations. *Social Problems*, 174-199.
- Jas, P., & Skelcher, C. (2005). Performance decline and turnaround in public organizations: A theoretical and empirical analysis\*. *British Journal of Management*, 16(3), 195-210.
- Jaworski, B. J., & Kohli, A. K. (1993). Market orientation: Antecedents and consequences. *The Journal of Marketing*, 53-70.
- Kanter, R. M. (1994). Collaborative advantage: The art of alliances. *Harvard Business Review*, 72(4), 96-108.
- Kara, A., Spillan, J. E., & DeShields, O. W. (2005). The effect of a market orientation on business performance: A study of Small-Sized service retailers using MARKOR scale. *Journal of Small Business Management*, 43(2), 105-118.
- Kirca, A. H., Jayachandran, S., & Bearden, W. O. (2005). Market orientation: A meta-analytic review and assessment of its antecedents and impact on performance. *Journal of Marketing*, 24-41.
- Kohli, A. K., & Jaworski, B. J. (1990). Market orientation: The construct, research propositions, and managerial implications. *The Journal of Marketing*, 1-18.
- Kohli, A. K., Jaworski, B. J., & Kumar, A. (1993). MARKOR: A measure of market orientation. *Journal of Marketing Research*, 467-477.
- Macedo, I. M., & Pinho, J. C. (2006). The relationship between resource dependence and market orientation: The specific case of non-profit organisations. *European Journal of Marketing*, 40(5/6), 533-553.

Molander, S., Fellesson, M., Friman, M., & Skålen, P. (2012). Market orientation in public transport Research—A review. *Transport Reviews*, 32(2), 155-180.

Narver, J. C., & Slater, S. F. (1990). The effect of a market orientation on business profitability. *The Journal of Marketing*, 20-35.

Nunnally, J. C. (1978). *Psychometric theory* (2nd ed.). New York: McGraw-Hill.

Pucher, J., Park, H., Kim, M. H., & Song, J. (2005). Public transport reforms in seoul: Innovations motivated by funding crisis. *Journal of Public Transportation*, 8(5), 41.

Siguaw, J. A., Simpson, P. M., & Baker, T. L. (1998). Effects of supplier market orientation on distributor market orientation and the channel relationship: The distributor perspective. *The Journal of Marketing*, 99-111.

Zikmund, W. G., Carr, J. C., & Griffin, M. (2012). *Business research methods* (with qualtrics printed access card) South-Western Pub.

1 June 2012).

Parasuraman, A., Zeithaml, V.A. and Berry, L.L. (1988) 'SERVQUAL: a multi-item scale for measuring consumer perceptions of service quality', *Journal of Retailing*, Vol. 64, No. 1, pp.12-40.

Pizam, A., Neumann, Y. and Reichel, A. (1979) 'Tourist satisfaction: uses and misuses', *Annals of Tourism Research*, Vol. 6, No. 2, pp.96-107.

Reddy, S.G, York, V.K. and Brannon, L.A. (2010) 'Travel for treatment: students' perspective on medical tourism', *International Journal of Tourism Research*, Vol. 12, No. 5, pp.510-522.

Schiffman, L.G., Kanuk, L.L. and Wisenblit, J. (2010) *Consumer Behavior*, 10th ed., Pearson Prentice Hall, Upper Saddle River, NJ.

Strombeck, S.D. and Wakefield, K.L. (2008) 'Situational influences on service quality evaluations', *Journal of Services Marketing*, Vol. 22, No. 5, pp.409-419.

Tian-Cole, S. and Crompton, J.L. (2003) 'A conceptualization of the relationships between service quality and visitor satisfaction, and their links to destination selection', *Leisure Studies*, Vol. 22, No. 1, pp.65-80.

Uysal, M. and Hagan, L. (1993) 'Motivations of pleasure travel and tourism', in Khan, M., Olsen, M. and Var, T. (Eds.), *Encyclopedia of Hospitality and Tourism*, Van Nostrand Reinhold, New York, pp.798-810.

Zeithaml, V.A., Bitner, M.J. and Gremler, D.D. (2009) *Services Marketing: Integrating Customer Focus Across the Firm*, 5th ed., McGraw-Hill Irwin, New York.

# MINING FOR SOLUTIONS: A DYADIC PERSPECTIVE ON RISK AND IMPEDIMENTS TO VALUE-BASED PRICING

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## ABSTRACT

Research has pointed at mixed outcomes of the effort to become a solution provider; many firms struggle to sell solutions and appropriate value. We investigate why solutions, that appear win-win in theory, fail to get traction in practice through a study of customer and supplier firms in the mining industry. Mining companies are strongly reluctant to pay for value-in-use when the suppliers do not share the miners' risks. Furthermore, value is often very hard to measure in a systemic, processlike production system. Finally, the prevailing negotiation climate is very much based on transparency, which, paradoxically, can hinder the adoption of solutions.

## INTRODUCTION

As competition increases across industries, more product firms are attempting to differentiate themselves by providing complex, integrated solutions rather than selling stand-alone goods and services (Davies et al., 2006; Nordin and Kowalkowski, 2010; Spencer and Cova, 2012). Solutions can be regarded as a particular type of offerings in business markets, typically being combinations of goods and services (Nordin and Kowalkowski, 2010) although 'pure' service solutions also exist (Jaakkola and Hakanen, 2012). Based on previous conceptualizations (Storbacka, 2011; Tuli et al., 2007; Ulaga and Reinartz, 2011), this paper defines solutions as goods and service components integrated into customized combinations, embedded in longitudinal, reciprocal processes (dyadic or networked) during which the supplier assumes some (or all) of the process outcome risk and is compensated (to various degree) on the basis of the customer's value-in-use (i.e., value-based pricing). Solutions to various degrees require customer involvement and adaptiveness, and imply that the interests and incentives of both parties are strongly aligned.

Furthermore, solutions generally involve gain-sharing agreements. Often business researchers tend to describe solutions as a sort of Holy Grail that increases competitive advantage, profit margins, and share of wallet for those who successfully apply the concept (e.g., Töllner et al 2011; Brady et al., 2005; Oliva and Kallenberg, 2003). However, Nordin and Kowalkowski (2010) find that this literature is often based on anecdotal evidence mostly from descriptions of success stories shared by business consultants. Superficially the concept finds appeal but fails to gain traction; Ulaga and Reinartz' (2011) study illustrates that few suppliers venture in reality into solutions, mostly because of the sophisticated capabilities required. Other studies show the mixed

outcomes attained by solutions' providers; many firms struggle to sell solutions or fail to outperform the offerings of product-centric suppliers (e.g., Baveja et al., 2004; Krishnamurthy et al., 2003).

Extant knowledge suggests that only a general consensus about the value creation opportunities of solutions and the various gain-sharing agreements and value-based pricing models are not sufficient. A more comprehensive view of solutions that accounts for the interdependence of supplier and customer during the solution process, the pre-requisites for adoption of solutions, and the perceptions of customers about the advantages and disadvantages associated with procuring solutions is necessary to understand the impediments to solutions. To address this fundamental issue, the following research question is investigated: Why do solutions, that appear win-win in theory, fail to get traction in practice? Whereas previous research has focused almost exclusively on value creation opportunities, this study proposes that equitable value created and appropriated by customer and supplier is a prerequisite for successful solution.

## CONCEPTUAL BACKGROUND

### Supplier views on solutions

The fundamental reason for the suppliers' shift toward solutions, identified by scholars and practitioners alike, is that solutions can drive growth and command a higher margin than products (Nordin and Kowalkowski, 2010; Oliva and Kallenberg, 2003; Johansson et al., 2003). This is explained by several factors; products are increasingly commoditized and solutions provide differentiation avenues, customers increasingly demand more turnkey solutions and show increased interest in outsourcing (Nordin and Kowalkowski, 2010). Further, solutions entail long-term relations and the integration of services (Tuli et al., 2007). Long-term service contracts can generate substantial revenue, and increase share of wallet, for product manufacturers (Nordin and Kowalkowski, 2010; Oliva and Kallenberg, 2003). Hence, financial motives in various forms are the suppliers' prime drivers toward offering solutions.

However, one major drawback for suppliers contemplating a move toward solutions is that solution-selling requires a different approach to sales, developing new skills – especially in sales, and re-organizing to be able to provide solutions (Davies et al. 2007, Oliva and Kallenberg, 2003). Organizational change is always difficult and there is a risk that an effort to transition into a solution-provider will result in a costly failure. Change involves largely replacing existing sales force with specialized newcomers (Reinartz and Ulaga 2008) Another problem is assessing the associated costs of integrating multiple functions and various sub-suppliers, which might exceed the achieved revenues. Hancock et al. (2005) find that while 25% of solutions' suppliers enjoyed significantly improved results 25% report losses. Failure to profit from solutions could stem from subpar system integrations capabilities but it could also stem from an inability to accurately estimate the value-in-use and/or inability to capture a sufficient share of this value. Quantifying the value-in-use for the customer

and pricing are key issues in solution selling (Anderson et al., 2007; Storbacka (2011).

### Customer views on solutions

Among the benefits that solutions deliver to customers the most important is that solutions deliver outcomes that the customer cannot achieve on their own (Miller et al., 2002; Storbacka, 2011). Solutions' suppliers enable superior value-in-use through lower cost for the same service, achieved thanks to supplier's economies of scale. For example, a supplier might be able to pool service technicians within one geographical area, allowing them to serve the installed base of equipment with fewer technicians than what would have been required if the mine operators did maintenance themselves. Alas the customer can, if purchasing the right solution, expect better financial outcomes than if activities are kept inhouse. Other benefits include outsourcing responsibility for, and ownership of, part of the customer's operations. In this case the customer is relieved of the hassle of running a complex operation, reducing capital expenses and facing a fixed (predictable) cost and guaranteed level of performance/availability (Kumar and Kumar, 2004; Kujala et al., 2011). Offering such guarantees transfer significant risks from the customer to the supplier (Ulaga and Reinartz, 2011).

Pricing a solution is associated with short and long-term risks. For customers, judging whether the price is fair relates to their ability to assess the value created by their solution. For the supplier, the risk relates to the ability of forecasting the cost of running an operation over the lifetime of the solution. These difficulties in assessing the price of solutions may lead the client to purchasing a solution that is more expensive than the competitors' solutions and/or keeping operations inhouse (Stremersch et al., 2001).

### METHODOLOGY

The mining industry provides an interesting context for solutions for several reasons. First, the current intense level of investment in old and new mines is one important reason because more investments mean more opportunities to sell solutions. Second, mining is very maintenance intensive and production stops are very costly (Kumar and Kumar, 2004). This should create opportunities for suppliers to sell solutions that either reduce the high maintenance costs or increase equipment availability of their current installed base. Third, the shortage of labor and other resources likely stresses the demand for labor-efficient operations and for potential outsourcing of activities. This can create a favorable situation for suppliers offering solutions, as they can reduce mining companies' demand for personnel. The rapid expansion of the global mining industry has led to shortages of, and cost increases for, skilled labor and equipment. Fourth, the high volatility environment for commodity prices may make mine operators inclined to counter volatility by seeking out flexible and predictable-cost solutions. Analysts suggest that this is due to fundamental supply/demand imbalances and that the industry is experiencing a shift toward a future high volatility environment (Connolly

and Orsmond, 2011; Louie and Burton, 2011).

One important thing to note about the Swedish mining industry is that it is made up by only a handful of major mine operators, and a few more suppliers, such as LKAB, Boliden, Atlas Copco, Sandvik, ABB, Metso and Outotec. This unique feature enabled us to study almost every major player involved without expending too much effort on the task. It also enabled us to rather accurately assess the state of solutions present in the mining industry. In order to get a thorough understanding of customers and suppliers views on solutions, the study included a diversity of suppliers and mining companies. The suppliers ranged from worldleading equipment manufacturers to local service providers and the customers included large mining companies as well as small mines, either operating or in the development stage. In total, 15 interviews were conducted with managers and executives at six different suppliers and four customers during 2012. In addition, interviews were conducted with a mining industry expert, an expert in complex sales, and a consulting company specialized in managing feasibility studies for mine development projects, to gain insight into this process. The interviews were conducted using a prepared interview guide, using probes, to obtain necessary depth of the answer. The interviews were loosely structured based on the interview guide. The questions asked varied between the interviews, as the companies and interviewees included in the study differed. Most interviews were conducted at each company's site. The length of the interviews varied between 30 and 90 minutes.

## FINDINGS

Table 1 summarizes perceived advantages and disadvantages of solutions, from both a customer and supplier perspective. Interestingly, while most factors are consistent with factors identified in prior research, factors such as human resources (in favor of solutions) and opposition to risk transfer (against solutions) have not been explicitly discussed in previous research on solutions. Worth noticing is also that some factors which are commonly regarded as either customer advantages—predictable cost and reduced working capital—or supplier disadvantages—a too wide range of offerings—were not evident in the study.

Table 1: Attitudes towards solutions

	Advantages	Disadvantages
Customers' perceptions of solutions	Increased productivity	Risk of reduced competition
	Reduced development time	Dependency on supplier
	Human resources	Complex procurement process
	Oursourcing of non-core activities	
Suppliers' perceptions of solutions	Improved financial performance	
	Increased share of wallet	Increased complexity
	Differentiation	Transfer of risk
	Stronger customer relationships	Expanding out of core business
	Knowledge gains	Unpredictable costs
		Increased balance sheet

A solution is often priced according to its value-in-use, which often means that costs are either fixed or fixed per unit of production, giving the customer advantage of better being able to predict costs. In the mining industry, predictable cost has not been raised as an advantage at all. First, the customers are primarily concerned about availability and performance rather than cost. Although cost may be of importance, predictable cost has not been brought up as significant. Second, the predictability of performance-based contracts, such as cost-per-ton contracts is in fact fairly low because the price is regularly adjusted based on many factors. In addition, such contracts commonly limit the suppliers' risk by including different clauses that protects them from factors outside of their control. The key reason for using performance-based contracts is to align the incentives in an attempt to increase availability, rather than to provide the customer with cost predictability.

Suppliers' attitudes to solutions and reluctance to assume operational risk Differentiation is a main driver of solutions, particularly for process equipment manufacturers. Regarding relationships, the Swedish mining industry context is special because of the close relationships between Nordic world-leading suppliers and the mining companies. An ABB executive stated that the miners and the suppliers have lived in a symbiosis for more than 100 years. Most of the purchasers and sales representatives that we interviewed gave formal controls such as judicial contracts a lower profile. Instead they favored a good relation in which the parties acted as partners and worked together to improve solutions. Suppliers also expressed a wish to better understand their customer, for example by assuming maintenance responsibility to gain operational knowledge and to provide consultancy service. Also, the incentives

alignments in performance contracts can incentive suppliers to develop their product and knowledge. Regarding disadvantages, providing solutions puts heavy requirements on the organization throughout the lifecycle of the solution. This usually requires organizational change both within sales and other departments, which increases complexity. Several suppliers mentioned difficulties of selling solutions, as their traditional organizations are rather product centric, whereas solutions require an application-centricity with larger possibilities for cross-functional organization (Storbacka, 2011).

Deals where the supplier assumes extensive operational risk for the customer does not exist in the mining industry. The reason is that the value of the ore that travels past the equipment is much higher than the cost of the equipment. Most suppliers offer equipment warranties and performance guarantees for larger installations but none of them offer complete peace of mind for the customer as they never cover any production loss. The rationale for a supplier offering a performance guarantee seems to be to display confidence in their own performance and align the incentives, and to state an intended target level, rather than take on the customer's operational risk. Oliva and Kallenberg (2003) discusses assuming operational risk, stating that one way to do this is to price the contract according to the opportunity cost of equipment failure. However, this would be unlikely in the mining industry, because the risk premium on the contract would be unreasonably high. Further, Ulaga and Reinartz (2011) state that all customers that entered solutions agreements in their study required that the supplier takes on all or at least some level of risk, stating that transfer of risk was a main motivation for procuring the solution in the first place. In contrast, the solutions in the mining industry did not include any significant risk transfer, let alone had risk transfer been a main motivation.

Customers' attitudes to solutions and reluctance toward value-based pricing

The strongest motivation for outsourcing maintenance to suppliers was the increased availability of the equipment. This is a result of the suppliers' special skills, special equipment and the fact that a customer can put tougher demands on them than on their own staff: "A contractor drives the truck during the day and repairs it at night. I can't get my guys to do that" (Mine Manager). Speed and time to production was also seen as a large advantage in procuring solutions, particularly for new projects and expansion of smaller mines. In particular, the development of a new mine is time consuming. Leaving the process to a turnkey supplier can be a way to reduce development time. Furthermore, the supplier assumes responsibility for part of the customer's operation, which usually reduces the headcount at the customer. This is a clear advantage for mining companies, as the labor situation is becoming scarcer, and that mining companies wish to retain flexibility: "We could draw up a calculation that said this option costs 75.000 a month and this option costs 65.000 a month, but in the end it does not matter. We won't be able to build that competence" (Purchasing Manager). Finally, outsourcing of some activities where the customer lacks the competence can be financially favorable. Nevertheless, the primary

goal of outsourcing specialized activities is the quality of work due to the contractors' special capabilities and the increased flexibility, rather than pure financial motives.

Regarding disadvantages, several customers were strongly reluctant to becoming too dependent on one supplier. With regards to drilling contractors one purchasing manager said that "It is important that they know they are replaceable" and another mentioned that they are exposing suppliers to competition worldwide. Furthermore, customers in the mining industry go to great lengths to expose suppliers to competition while still working in partnerships with them, which is opposite to studies such as Stremersch et al. (2001), which notes that customers are increasingly willing to purchase from a single supplier. Finally, the procurement process for solutions is more complex and the integration of sub-systems implies that customers may lose the possibility to expose the customer's business to competition.

In the literature, many scholars emphasize that a solution should be priced according to the value created for the customer rather than as a discounted bundle of products and services. In the mining industry context, we have found the spread of this practice to be very limited, if existing at all. There are two main reasons for this. First, the process characteristics of the industry outlined before inhibits both risk transfer and value-in-use pricing. The same logic by which no supplier considers taking on the customer's operational risk also applies to suppliers trying to capture part of the value they create for the customer. Increasing customer productivity by for instance 10% can result in very large profit impact for the customer at a relatively low cost for the supplier. Suppliers thought it was unreasonable to attempt selling such contracts and one of the large mining companies strongly rejected the idea of purchasing anything based on value. Second, there is a fairly high transparency of the transactions in the Swedish mining industry. Open books—or at least highly transparent negotiations—for maintenance equipment and for larger projects, are practiced by many customers and suppliers. Even if open book negotiations are not practiced, the margins on equipment and service are at least to some extent known. Such open book contracts put emphasize on cost plus pricing with a win-win approach. To illustrate, consider a mine's contract negotiations with a supplier for their service agreement. Initially, the two parties agree on a performance level deemed satisfactory, for example, 97% uptime for the processing plant. Then the two parties negotiate on how large staff the supplier should have and expenditures on spare and wear parts etcetera. On top of that, the supplier adds a 15% profit margin. In order to align incentives, there are bonuses and penalty clauses invoked when target levels are exceeded or missed. This practice, which is characterized by transparency and a will to lower total cost, goes in a diametrically opposite direction of value-in-use pricing.

## CONCLUSIONS

Our study extends existing supplier-centric studies by including both a supplier and a customer perspective on solutions. The findings also extend knowledge about how product firms can infuse services by

analyzing a process industry setting, which differs in several ways from the capital goods industry settings that have been in focus in prior research. The study also offers a more nuanced picture of service infusion in manufacturing, revealing that service and solutions concepts that appear win-win in theory in fact can be the opposite in practice.

Overall, suppliers' rationales for moving towards solutions differ depending on type of business, and customers' preference for solutions differ between types of mining companies. Contrary to earlier studies, we find strong supplier reluctance to assume risk and strong customer reluctance towards value-based pricing. These are key factors hindering the growth of integrated solutions. For example, suppliers do not assume operational risk for the customer because the risk premium on the contract would be unreasonably high. Furthermore, customers go to great lengths to expose suppliers to competition while still working in partnerships with them. The primary motivation for doing so is to put pressure on the suppliers to improve performance-wise and to keep their costs in shack. For mining companies, availability is much more important than cost for most equipment. Moreover, due to the continuous flow process characteristics of mine production, the opportunity cost of critical equipment failure dwarfs the cost of equipment. It is therefore unlikely that any solutions will include a complete—or even meaningful amount of— risk transfer. As a result, solutions are not priced to capture a significant share of the customer's value-in-use.

To conclude, mining companies are strongly reluctant to pay for value-in-use when the suppliers do not share the miners' risks. Furthermore, value is often very hard to measure in a systemic, process-like production system. Finally, the prevailing negotiation climate is very much based on transparency, which, paradoxically, can hinder the adoption of solutions.

## REFERENCES

Anderson, J. C., Kumar, N. and Narus, J. A., (2007). *Value Merchants: Demonstrating and Documenting Superior Value in Business Markets*, Harvard Business School Press.

Baveja, S., Gilbert, J. and Ledingham, D., (2004), "From products to services: why it's not so simple," *Harvard Management Update*, 9 (4), 3–5.

Brady, T., Davies, A. and Gann, D.M., (2005), "Creating value by delivering integrated solutions", *International Journal of Project Management*, 23 (5) 360-365.

Connoly, E. and Orsmond, D., (2011), "The mining industry: from bust to boom", RDP2011-08, Reserve Bank of Australia.

Davies, A., Brady, T. and Hobday, M., (2007), "Organizing for solutions: systems seller vs. systems integrator", *Industrial Marketing Management*, 36 (2) 183-193.

Davies, A., Brady, T. and Hobday, M., (2006), "Charting a path toward

integrated solutions”, MIT Sloan Management Review, 47 (3) 39 - 48.

Hancock, M.Q., John, R.H. and Wojcik, P.J., (2005), “Better B2B selling”, McKinsey Quarterly, 25 (June).

Jaakkola, E. and Hakanen, T., (2012) “Value co-creation in solution networks”, Industrial Marketing Management, 42 (1) 47–58

Johansson, J. E., Krishnamurthy, C. and Schliessberg, H. E., (2003), “Solving the solutions problem”, McKinsey Quarterly, 23 (August).

Krishnamurthy, C., Johansson, J. E. and Schliessberg, H. E., (2003), “Solutions selling – Is the pain worth the gain?” in Marketing & Sales Practice, McKinsey&Company (Ed.).

Kujala, S., Kujala, J., Turkulainen, V., Artto, K., Aaltonen, P. and Wikström, K., (2011), “Factors influencing the choice of solutionspecific business models”, International Journal of Project Management, 29 (8) 960-970.

Kumar, R. and Kumar, U., (2004), “Service delivery strategy: Trends in mining industries”, International Journal of Surface Mining, Reclamation and Environment, 18 (4) 299-307.

Louie, N. and Burton, C., (2011), “Commodities Outlook: Increased volatility, increased opportunity?”, Credit Suisse.

Miller, D., Hope, Q., Eisenstat, R., Foote, N. and Galbraith, J., (2002), “The problem of solutions: balancing clients and capabilities”, Business Horizon, 45 (2) 3-12.

Nordin, F. and Kowalkowski, C., (2010), “Solutions offerings: a critical review and reconceptualisation”, Journal of Service Management, 21 (4) 441-459.

Oliva, R. and Kallenberg, R., (2003), “Managing the transition from products to services”, International Journal of Service Industry Management, 14 (2) 160-172.

Reinartz, W. and Ulaga, W., (2008), “How to sell services profitably,” Harvard Business Review, 86 (5), 90–98.

Spencer, R. and Cova, B., (2012) “Market solutions: Breaking free from dyad-centric logic and broadening the scope of S-D L”, Journal of Marketing Management, 28 (13-14), 1571-1587.

Storbacka, K., (2011), “A solution business model: Capabilities and management practices for integrated solutions”, Industrial Marketing Management, 40 (5) 699-711.

Stremersch, S., Wuyts, S. and Frambach, R .T., (2001), “The Purchasing of Full-Service Contracts: An Exploratory Study within the Industrial Maintenance Market”, Industrial Marketing Management, 30 (1) 1-12.

Töllner, A., Blut, M. and Holzmüller, H. H., (2011), "Customer solutions in the capital goods industry: Examining the impact of the buying center", *Industrial Marketing Management*, 40 (5) 712-722.

Tuli, K. R., Kohli, A. K. and Bharadwaj, S. G., (2007), "Rethinking customer solutions: From product bundles to relational processes", *Journal of Marketing*, 71 (3) 1-17.

Ulaga, W. and Reinartz, W. J., (2011), "Hybrid offerings: How manufacturing firms combine goods and services successfully", *Journal of Marketing*, 75 (6) 5-23.

# **MIRROR, MIRROR ON THE WALL – HOW SERVICE CUSTOMERS PERCEIVE THEIR CONTRIBUTION TO SERVICE PROVISION**

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## **ABSTRACT**

Customer's participation in the service production and delivery process is pivotal. However, academic discussion on customer contribution is lacking consistency in terms of conceptualization and empirical support with regard to how customers themselves perceive and understand their contribution to service provision. The authors show that customers are aware of their contribution in terms of physical and mental contribution. Moreover, they find evidence that emotional contribution results from physical and mental contribution. Finally, customers perceive contribution to be demanding and stressful when it surpasses a range of tolerance.

## **INTRODUCTION**

With the rise of service-dominant logic, investigation and debate of customer's contribution to service provision in academia reawakened (e.g., Moeller, 2008; Payne et al., 2008; Vargo, 2008). This is due to the fact that the customer is considered to be a co-creator of value in the service process (Vargo and Lusch, 2004) acting as both an operant and operand resource (Vargo, 2008). As an operand resource a service provider integrates the customer into his processes as to perform the service on them or their objects. In co-producing the service, customers contribute to quality and service value as operant resources (Bitner et al., 1997; Ennew and Binks, 1999).

Despite the fact that importance of customer's contribution to service provision has been acknowledged widely, customer's perception of his contribution has been neglected, hitherto. Hence, it is vitally important for service providers to understand how customers perceive contribution to the service process in order to successfully integrate and manage customer's contribution to the service production and delivery process (Chan et al., 2010).

## **CUSTOMER'S CONTRIBUTION TO SERVICE PROVISION**

The nature of service provision requires customer's participation in the service process. Hence, the customer himself plays an important part in contributing to service specification, production and delivery (Bettencourt, 1997; Moeller, 2008). While customer contribution to service provision has been the focus of conceptual and to some extent empirical research since the 1980's (e.g., Eiglier and Langeard, 1987; Bitner et al., 1997), theoretical conceptualizations (e.g., Bettencourt, 1997; Eiglier and Langeard, 1987; Rodie and Kleine, 2000) have been assumed to hold true empirically. Recently, Wu (2011) noted empirical research on customer contribution to be inconclusive which is attributed to the inconsistencies in defining and conceptualizing customer contribution resulting terminological ambiguity.

Customer integration, reflecting provider's view of customer contributions, refers to the customer as a resource to the company's value-creating activities (Moeller, 2008; Payne et al., 2008). Similarly, co-production is more concerned with the implications of customer's contribution on the firm (Etgar, 2008). Customer participation, on the other hand, considers individual customer's degree to contribute to service provision (Bendapudi and Leone, 2003), thus, focusing on the customer. For example, Bitner et al. (1997) identify a continuum of levels of customer participation associated with intensifying contributions from mere presence (low level), over providing input (moderate level), to co-creation of the service (high level). Customer involvement is used interchangeably with participation most of the time (e.g., Ennew and Binks, 1999; Vargo, 2008). However, participation has the connotation of customer's definite contribution while involvement leaves the customer with optional decision not to contribute (Vargo, 2008). In summary, forms of contribution and perspectives (firm vs. customer) vary across terms, however, customer's contribution to service provision is the common ground of all concepts. Thus, we opt for the broad term 'customer contribution' as to capture customer's perception holistically.

What is reflected within those different perspectives is that customer contribution could be classified according to its intensity (Bitner et al., 1997). For instance, Eiglier and Langeard (1987) discriminate between active and passive customer contributions: When the customer is the recipient of the service and only his presence during the service process is necessary for delivery, the authors speak of passive contribution. In contrast, the customer is active when he is directly involved in the service process and undertakes duties throughout the production and delivery process.

Furthermore, the concept of customer co-production distinguishes between optional and obligatory customer contributions related to the service type (Bettencourt, 1997). Besides "engaging customers as active participants" (Lengnick-Hall et al., 2000, p. 364) co-production refers to the voluntary contribution of customers during the service process (Bettencourt, 1997). Rodie and Kleine (2000) differentiate between different forms of contribution. They outline physical, mental and emotional dimensions of contribution but do not provide empirical evidence.

Kellogg et al. (1997) are the first to investigate customer participation behavior conceptually and empirically to show its relation to customer satisfaction. However, they conceptualize participation as "quality assurance behaviours" (Kellogg et al., 1997, p. 208) of customers referring to four distinct activities (preparation, relationship building, information exchange, and intervention) which encompass the generic service provision process. In contrast, Ennew and Binks (1999) empirically derive the customer contribution activities – exchange of information, assuming responsibility, being aware of his own role during the service process, and interacting with the provider – within the service process, which reflect at least mental and physical forms of contribution as stated by Rodie and Kleine (2000).

While these empirical studies provide evidence for different dimensions of customer contribution and take the customer's perspective into account, they both fail to capture customer's perception of his activities. Moreover, since these empirical studies aim to derive classifications, none of the studies investigates relationships among the dimensions of the customer contribution concept.

To deepen understanding of the customer's perspective of his contribution to service provision and provide implications for service managers, we contribute by empirically investigating customer contribution following these research questions:

- (1) Where in the service process does the customer perceives his contribution to start/end?
- (2) To what extent does customer's perception of his contribution reflect conceptualization of customer contribution from literature?
- (3) What are the dimensions of contribution as perceived by the customer?
- (4) How do these dimensions relate to each other?

## QUALITATIVE RESEARCH APPROACH

Our research focuses on exploring customers' understanding of how they perceive their contribution to service provision, relying on qualitative inquiry. To achieve this goal and answer our questions, we recruited consumers, who could inform us about our research questions, following a purposive sampling approach (Patton, 2010). Interview guidelines were carefully designed to draw out memories of personal experiences or evoke imagination with regard to customer contribution in specific service settings (e.g.; hairdresser, car repair, train ride). We collected data till information redundancy was reached, implying saturation (Gummesson, 2000). In total nine interviews lasting between 45 and 90 minutes, each covering three service settings, were conducted in German. With participant's permission, interviews were audio-taped to be transcribed verbatim afterwards. Relevant quotes were translated into English.

As suggested, researchers deepened pre-understanding of customer contribution in a service context, reviewing relevant literature (Storbacka et al., 2011) and began analysing the verbatim transcripts early after data collection was finished. In line with Glaser and Strauss (1967), we followed an iterative process of reading, coding, and discussing the coding among researchers. Coding was facilitated using NVivo 10 software (QSR, 2012). We analysed the data by aggregating codes into broader categories and interpreting the results (Creswell, 2007; Sinkovics et al., 2005). Data was categorized in line with Spiggle (1994), building on emerging previous categories.

## FINDINGS

Data gives evidence to the fact that customers are aware of their contribution to the service process, thus addressing our first research question. They

differentiate between customer and provider activities: “When I order [from the catering service] I am very active [...]; [later] it is the responsibility of the catering service, he is delivering to my home, puts it on the table and only then it is me who is acting”; 9. Moreover, the customer is able to distinguish different forms of contribution based on whether the service is performed on an object (e.g. car, house) or a person (“you are the more active party [...] because the service is for me as a human being and not for an object”; 7).

Based on customer’s awareness of his contribution, pre-purchase activities (e.g. information gathering, purchase decision) are considered to be part of the service process (“I am involved since I need to think through what I want to have, I have to decide on which service provider to take, gather information [...]. Hence, I am very much involved in the process”; 9. “It is at the forefront [...] when I think about what to expect”; 2). When it comes to the service production and delivery phase, customers contribute by communicating expectations, wishes, and service specifications to customize the service (“I had to state the problem [...], the thing that didn’t work, in my case a light [...]; I had to tell whether it gleamed too high or too low, thus [I] had to describe in detail what didn’t work”; 2) as well as making choices in the beginning and throughout the process to shape the process and outcome according to their expectations (“sometimes I look at the result [...] and tell whether it is ok [...] and from time to time he [the hair dresser] asks whether everything is fine or whether he should cut leave my hair a little bit longer or make it shorter”; 5).

With regard to our second questions, we identify customers to differentiate between active and passive contribution. When they feel treated as objects (“the dentist discovers something and I have to decide whether to fix it or not [...], thus, a more passive role, I’d say”; 3) or the service is performed on an object (“The car [repair] is simply an object, [in the hotel] I am there myself, thus I’d indicate that this is active”; 7), they describe their participation as passive, while active contribution involves participation of the customer himself. Often, he sees himself as the initiator of the service process and is able to distinguish between sequences with and without physical participation (“but I have to be 100 % active, because otherwise nothing is happening”; 3).

Similarly, customers are aware that physical and mental contribution is mandatory (“if I weren’t there, they could not do anything”; 9 / “if I didn’t describe my problem, we could not do anything”; 2).

Not only does the customer perceive his centrality to the service process, but he is also aware of different dimensions of his contribution, hence, providing an answer to our third research question. First, customers identify physical contribution: “I am walking around. [...] that is not too much physical contribution”; 3. From the customer’s point of view physical contribution includes: to be present (not move) (“I am there and let it happen”; 5), to move himself, to talk, to speak (“it is standing up, going there and mostly speaking”; 1) as well as to move objects. Second, the customer is highly aware of his mental contribution throughout the process (“Yes, you are always mentally involved”; 1). Mental contributions are mostly planning (“You have to make plans how to manage things”; 6), deciding (“Yes, sure, I have got various options to decide”; 7) as well as seeking and giving

information (“I have to inform myself of what the supplier is providing”; 9. “I explain what is wrong with my teeth, how I am feeling”; 8). Finally, customers are contributing emotionally (“I would describe it [emotional contribution] as very high since the process causes tension within me”; 3). These emotions vary from pain, anger, rage, fear and frustration on the negative side to happiness, pleasure, pride, comfort and relaxation on the positive side. Regarding the level of specific emotions, we identified several extreme points (“because the process causes tension within me, there can be rage and anger or a great feeling of happiness, because you did it right”; 3).

Emotional as well as physical and mental contributions are not disassociated dimensions in the perception of customers. We find evidence for relations between physical and emotional contribution (“it is really annoying, when you have to stand there the whole time”; 6), thus addressing the fourth question. Similarly, data reveals a relationship between mental and emotional contribution (“well, that [emotional contribution] is something that overlaps with the mental contribution [...] you are emotionally involved because you hope everything is going and organized well [...] I think that it is not only mental but also emotional activity”; 2. “Mental and emotional. It’s not only in your head, it’s also in your gut”; 2). Finally, these individual relations also seem to influence each other mutually, when they are all combined simultaneously during the service process (“You have got the option to fix the fuel tap, [...], but not everybody gets it right, so it is really annoying, when you have to stand there the whole time. You have to watch the figures the whole time and decide when to step in. It would be relieving”; 6).

Moreover, customers perceive different intensity levels in each of these dimensions. Low levels of physical contribution are “is simple and not exhausting, but you are physically present”; 7, whereas high levels of mental contribution are perceived negatively and exhausting (“Well, at the hospital you have to decide the evening before what you want to eat the other day. [...] It is exhausting when you have to decide permanently and it has to be at a certain point of time, otherwise you do not get any breakfast, that is annoying”; 7). When emotional contribution exceeds a certain level it is perceived negatively (“But the moment it exceeds a certain point, [...], it is stress”; 6. “It is neutral permanently, but if there is a deflection regarding the emotional activity, it is mostly negative”; 5). Moreover, customers are willing to accept negative emotions, when they want or need to use the service: “You accept this, the emotional stress you have”; 6.

## DISCUSSION, IMPLICATIONS AND FURTHER RESEARCH

Our findings provide empirical support for prior conceptual and theoretical work and deepen understanding of the pivotal concept of customer contribution taking the customer’s perception into account.

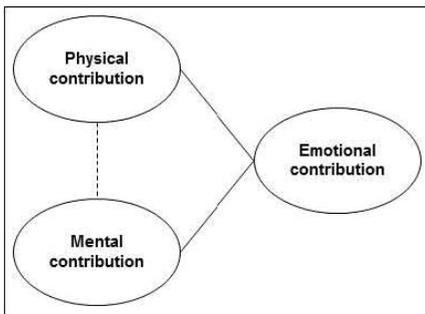
First, we confirm the distinction between active and passive contribution (Eiglier and Langeard, 1987), thus contributing to our second research question. We find evidence that customers differentiate between active and passive contribution: Customers are aware of episodes when they feel more passive, especially when treated like an object, while most of the time

they perceive themselves as active contributors. Notably, customers tend to negatively evaluate the service process when they feel to be passive. Thus, it is vitally important to make the customer feel an active contributor to the service process (e.g. ask for information or expectations).

Moreover, our data reveals that the customer is able to distinguish between mandatory and voluntary activities (Bettencourt, 1997). However, customers regard their contribution to the service process primarily as voluntary. First, purchase decisions as well as activities without interference of the provider are perceived as voluntary. Second, contribution to service provision is perceived as voluntary since customers are aware of their required contribution. Third, activities considered to be mandatory from the provider's perspective are perceived as optional which provides the first distinction between customer's and provider's perspective. To answer our first research question, we find evidence that customers perceive both, the phase up to the purchase decision as well as actual service production and delivery, as the 'service process'. Thus, service provision in the eyes of the customer starts when he is contributing to make the service provision happen (e.g., driving to the fuel station, making an appointment at the hair dresser). This is in line with preparation activities by Kellogg et al. (1997). Hence, service providers should support and stress customer perception of voluntary contribution highlighting positive impact on service provision and results. Further research should consider in more detail how customers perceive their effort in the pre-purchase phase in contrast to the service production and delivery phase.

Contributing to our second and third research question, our findings indicate customer contribution to be a three dimensional construct (Rodie and Kleine, 2000), thus, being sufficiently described by physical, mental, and emotional contribution (Figure 1).

Figure 1: Dimension of customer's perceived contribution



Physical contribution range from presence of the customer during the service process to actually performing activities. Providing, gathering, and processing information, stating customer expectations and performance specifications as well as making decisions are labeled 'mental contribution' confirming Kellogg et al. (1997). Surprisingly, customers extensively and frequently mentioned mental contribution.

While this may be attributed to the method of inquiry – interviewees were compelled to remember personal experiences or imagine situations of

customer contribution – to some extent, we want to highlight the intensity and importance of mental contribution across the range of services investigated. Emotional contribution manifests in feelings and emotions during the service process, such as joy, pride and anger, as well as an affective affiliation with and commitment to the service and the provider (Bettencourt, 1997).

So far research has not covered dimensions of customer contribution jointly. Therefore, empirical evidence regarding the relations between dimensions is scarce. Our study is the first empirical approach to investigate all dimensions of customer contribution together and in relation to each other. Data reveals interrelations between physical and mental contribution as well as a mutual impact of emotional contribution.

Our empirical findings enhance the conceptual understanding, that those three dimensions are perceived on the same layer (Rodie and Kleine, 2000), since we identify emotional contribution to result from physical and mental contribution (Figure 1). As a result, physical and mental contribution jointly have an impact on positive or negative valence of emotions and evaluation of contribution. Thus, service managers generally need to be aware of the dimensions of customer's perception of physical and mental contribution as well as how they are interlinked and together influence emotional contribution. Further research is needed to validate these findings. Particularly, research should opt for quantitative inquiry to validate our conceptualization of customer contribution, especially with regard to interrelations among and importance of the physical, mental and emotional dimension. In particular, emotional contribution needs further research with regard to how emotions are related to physical and emotional contribution – e.g., as a subsequent form of contribution or consequence of physical and mental contribution – as well as how they impact the service provision process (e.g., emotional expression, evaluation of the service) and physical and mental contribution in turn. Finally, there is scope to investigate the importance of those three dimension across different customer roles (Bitner et al., 1997) or between different types of services (e.g., B2C vs. B2B).

We discovered a zone of tolerance for emotional contribution, referring to the identically named concept within the service management and consumer behavior literature (Johnston, 1995): When emotional contribution exceeds the zone, customers perceive contribution to be stressful and state to have negative emotions. Thus, our concept of the zone of tolerance of customer contribution covers the aspect of accepted variation of customer's expectations and perception of in-process service performance (Johnston, 1995). Moreover, Strandvik (1994) notes increased performance within this zone will have marginal influence on customer's perceptions while the effect on perception is notably greater when performance moves outside this range. Similarly, both physical and mental contribution is found to manifest within such zone of tolerance. For instance, minor physical contribution lies within the zone of tolerance. In contrast, permanently recurring mental contribution (e.g., decisions, coordination, planning, and need to control results) leads to higher levels of perceived effort, resulting in stress and negative perception. Thus, we understand customer's to be aware if such zone of tolerance for customer contribution for physical,

mental as well as emotional contribution within which customers willingly accept and do not pay much attention to their contribution. However, when contribution moves beyond this zone, customers become aware of their effort in contributing to the service process, thus, leading to negative emotion and evaluation of their contribution. As our data reveals, this holds notably true for the upper boundary. Further research should be done to confirm the zone.

Particularly, the lower boundary needs further investigation, taking into account mandatory contribution, as our data is inconclusive on that issue. Additionally, it is necessary to investigate the variability of the zone of tolerance over time (in extended service encounters or along different service experiences) and across different types of service encounters and customer segments.

Since emotional contribution results from physical and mental contribution and its valence impacts customer's perception of contribution, practitioners should particularly pay attention to carefully manage customer's perception of mental and physical contribution to not exceed customer's individual zone of tolerance. Service managers need to influence expectations as well as actual perception during the process as to leave the customer with the impression that his contribution lies within the usual range and intensity of contribution.

This research investigated customer's contribution to service provision. Methodologically, we contributed by empirically supporting conceptual research on customer contribution, providing evidence for congruency of provider and customer perspective as well as new insights. Particularly, we highlighted provider's opportunities to influence customer's perception of his contribution through physical and mental contribution.

## REFERENCES

Bendapudi, N., & Leone, R. P., (2003), Psychological implications of customer participation in co-production, *Journal of Marketing*, 67 (1), 14-28

Bettencourt, L. A., (1997), Customer Voluntary Performance: Customers as Partners in Service Delivery, *Journal of Retailing*, 73 (3), 383-406

Bitner, M. J., Faranda, W. T., Hubbert, A. R., & Zeithaml, V. A., (1997), Customer contributions and roles in service delivery, *International Journal of Service Industry Management*, 8 (3), 193-205

Chan, K. W., Yim, C. K., & Lam, S. S. K., (2010), Is customer participating in value creation a double-edged sword? Evidence from professional financial services across cultures, *Journal of Marketing*, 74 (3), 48-64

Creswell, J. W., (2007). *Qualitative inquiry and research design: Choosing among five traditions* (2nd ed.). Thousand Oaks: Sage

Eiglier, P. & Langeard, E.; (1987); *Servuction. Le Marketing des Services*,

Paris

Ennew, C. T., & Binks, M. R., (1999), Impact of Participative Service Relationships on Quality, Satisfaction and Retention: An Exploratory Study, *Journal of Business Research*, 46 (2), 121-132

Etgar, M., (2008), A descriptive model of the consumer co-production process, *Journal of the Academy of Marketing Science*, 36 (1), 97-108

Glaser, B. G., & Strauss, A. L., (1967). *The Discovery of Grounded theory: Strategies for qualitative research*. Chicago: Aldine Pub. Co.

Gummesson, E., (2000), *Qualitative methods in management research* (2nd ed.). Thousand Oaks, California: Sage.

Johnston, R., (1995), The zone of tolerance: Exploring the relationship between service transactions and satisfaction with the overall service, *International Journal of Service Industry Management*, 6 (2), 46-61

Kellogg, D. L., Youngdahl, W. E., & Bowen, D. E., (1997), On the relationship between customer participation and satisfaction: two frameworks, *International Journal of Service Industry Management*, 8 (3), 206

Lengnick-Hall, C. A., Claycomb, V., & Inks, L. W., (2000), From recipient to contributor: examining customer roles and experienced outcomes, *European Journal of Marketing*, 34 (3/4), 359-382

Moeller, S., (2008), Customer Integration—A Key to an Implementation Perspective of Service Provision, *Journal of Service Research*, 11 (2), 197-210

Patton, M. Q., (2010). *Qualitative research & evaluation methods* (3rd ed.). Thousand Oaks, California: Sage.

Payne, A., Storbacka, K., & Frow, P., (2008), Managing the co-creation of value, *Journal of the Academy of Marketing Science*, 36 (1), 83-96

QSR, (2012). *NVivo qualitative data analysis software*: QSR International Pty Ltd.

Rodie, A. R., Kleine, S. S., (2000), Customer Participation in Services Production and Delivery in T. A. Swartz, & D. Iacobucci, *Handbook of Services Marketing and Management*, Thousand Oaks: Sage Publications, 111-125.

Sinkovics, R. R., Penz, E., & Ghauri, P. N., (2005), Analysing textual data in international marketing research, *Qualitative Market Research: An International Journal*, 8 (1), 9-38

Spiggle, S., (1994), Analysis and Interpretation of Qualitative Data in Consumer Research, *Journal of Consumer Research*, 21 (3), 491-503

Storbacka, K., Polsa, P., & Sääksjärvi, M., (2011), Management Practices in Solution Sales—A Multilevel and Cross-Functional Framework, *Journal*

of Personal Selling and Sales Management, 31 (1), 35-54

Strandvik, T., (1994). Tolerance zones in perceived service quality. *Ekonomi och samhälle: Vol. 58*. Helsingfors: Svenska handelshögskolan.

Vargo, S. L., (2008), Customer Integration and Value Creation: Paradigmatic Traps and Perspectives, *Journal of Service Research*, 11 (2), 211-215

Vargo, S. L., & Lusch, R. F., (2004), Evolving to a new dominant logic for marketing, *Journal of Marketing*, 68 (1), 1-17

Wu, C. H.-J., (2011), A re-examination of the antecedents and impact of customer participation in service, *Service Industries Journal*, 31 (6), 863-876

# MODELING AND PRIORITY SETTING IN SOCIO-ETHICAL SECTORS

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**KEYWORDS:** Customer Satisfaction, EPSI, Intangibles, prioritization, private/public providers, SEM, service quality,

## EXTENDED ABSTRACT

### PURPOSE

In this paper the use of intangibles (primarily survey generated data on customer satisfaction) for performance assessment and policy setting on establishment and sector levels are considered. We focus on the use of such insight for setting priorities and evaluate improvement schemes in health, education and elderly care. Special emphasis is put on a benchmark between public and private providers in such service delivery.

The EPSI (Extended Performance Satisfaction Index) Rating initiative is taken as the empirical basis for the study. EPSI Rating is a Pan European project aiming at developing and generating non-financial measures for use as a common currency by different stakeholders.

### INTRODUCTION

There is an intensive discussion about quality and efficiency in the socio-ethical sector, including not least education, health and elderly care. Issues about funding such schemes in the future as well as measuring performance are intensive in both the public debate and various academic fora. Public versus private funding as well as public versus private delivery systems are at focus in this discussions in Sweden as well as in other Nordic countries and on the global arena.

### THE CONCEPTUAL FRAMEWORK

Intangible variables are often seen as drivers of the financial bottom-line. Fornell (2006) et al, presents a review of the past research regarding the relationship between customer satisfaction and financial performance. More recently, (Larcker, Ittner and Taylor, 2009), evidence that customer satisfaction scores include some incremental information on future operating income and that the market rapidly reacts to the disclosure of information on large increases in satisfaction is provided. In a present study, (Adolphson, Eklöf and Parmler, 2012) this relationship is further elaborated and documented for a number of companies in especially the financial sector.

In socio-ethical sectors the situation is different whereas intangible performance indicators by various stakeholders may be seen as goals, not merely drivers/instruments. Many researchers (Cinca, et al 2003) have

argued for using scaling models and that measurement and valuation of intangible assets is also important and necessary in the public and socio-ethical sectors.

Various input measures like number of pupils per class, number of hospital beds per 1,000 inhabitants etc. are often considered for “controlling” the system. Also output measures like educational performance, medical result, etc. are also considered for maintaining such systems. However, it is rare to see intangible variables like stakeholder satisfaction to be used here in an operational setting. In this study the causal relationship is modeled from input measures through output to analyze and eventually explain performance.

## METHODOLOGY AND APPROACH

The EPSI approach focuses on causal analysis derived from structural modeling using survey data to estimate numerical relationships. Industry and sector-specific studies (based on a syndicated research principle) started 1999, and have successively been extended to cover more and more countries and common sectors.

Satisfaction and loyalty scores are derived from the EPSI structural equation model on corporate and establishment level, as well as for aggregated sectors and industries. Commercial industries as well as private goods (co-)financed via the society and public goods (like governmental administration) are included in the regular studies.

In this study focus is on a comparative study of results from health, education and elderly care in Sweden during a 10 year period. Some benchmarks are also taken from other European countries measured by EPSI. Annual data on sector level as well as to a certain extent on establishment level are utilized.

## MAIN FINDINGS

Among the findings in the comparative study are significant differences in the average as well as variation of perceived (service) quality between private and public providers. In both health and education the average satisfaction is higher for private providers, while the opposite is documented for elderly care.

An overall result is that the approach is feasible for identifying improvement candidates, setting priorities, and evaluation. However, in the communication and usage processes we find main challenges when it comes to the interpretation of results and rankings. Even though comprehensive documentation about the statistical properties of the estimated parameters are supplied as a rule, there is a general tendency of “over-interpreting” differences (especially among stakeholders that obtain high scores). Further on, we often find that corporate users interpret results and especially impact estimates in too deterministic ways, ignoring the statistical uncertainties presented.

## RESEARCH LIMITATIONS AND IMPLICATIONS

Benchmarks based on attitudes are increasingly released in both popular media and academia. The relevance of such scores (rankings and/or ratings) may be questioned from a number of angles. In most studies it is, though, assumed that the measured constructs are both valid and of appropriate reliability for the intended uses. In this paper that proposition is further challenged as we question qualitative aspects of the utilized data, as well as assessed models. This points at a number of drawbacks and weaknesses when basing priorities on (only) such approaches.

## REFERENCES

- Adolphson, J.; Eklöf, J.; Parmler, J., 2012, Outside-in Inside-out: Explaining financial performance in the bank sector by (also) non-financial measures, SSE working paper, Stockholm
- Cinca, C., Mar Molinero, C., Bossi Queiroz, A., (2003), The measurement of intangible assets in public sector using scaling techniques, *Journal of Intellectual Capital*, Vol. 4, Issue: 2, pp.249 - 275
- Fornell, Claes; Mithas, S.; Forrest Morgeson V. and Krishan M.S. (2006): Customer Satisfaction and Stock Prices: High Returns, Low Risk, *Journal of Marketing*, 70, 3-14
- Ittner, C., Larcker D.F. and Taylor D. (2009). The Stock Market's Pricing of Customer Satisfaction, *Marketing Science*, 28(5), 826-835

# MOTIVATION, LEADERSHIP AND EMOTIONAL INTELLIGENCE IN THE HOSPITALITY INDUSTRY

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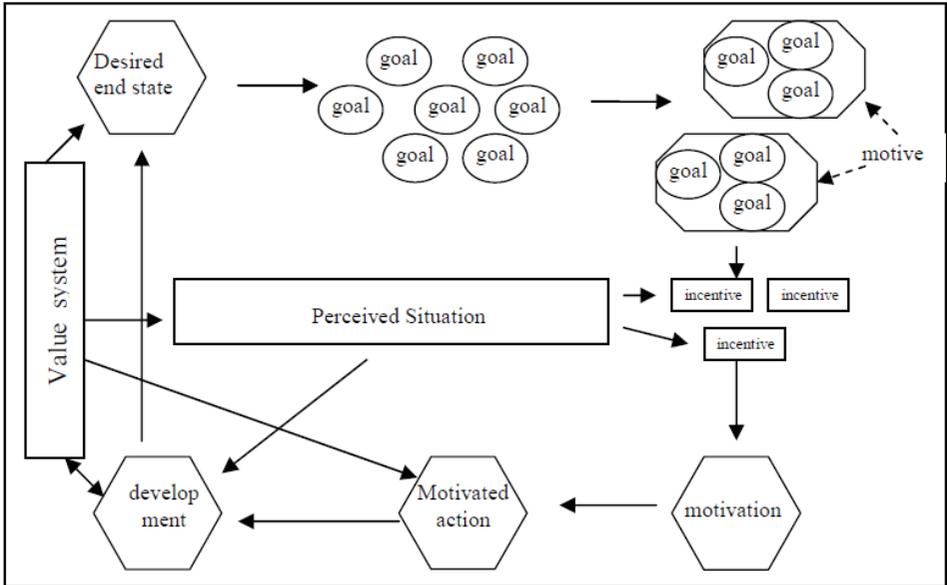
## ABSTRACT

The purpose of this paper is to create a tentative model how motivation, leadership and emotional intelligence interact in the hospitality industry. Therefore, the motivational process is introduced and discussed by relating it to the specifications of the hospitality industry. A brief overview of the current leadership discussion is given before the role of leadership in the motivational process is analysed. The concept of emotional intelligence is introduced and a possible leveraging effect on the before presented process is discussed. The paper concludes with a tentative model showing the interaction of motivation, leadership and emotional intelligence in the hospitality industry.

## MOTIVATIONAL PROCESS

Motivation can be described as actively directing the momentary life style towards a goal state which is judged positively (Lenzner, Dickhäuser 2011, p. 12). The desired end state is translated into smaller goals which may be summarized into motives (Gardner 2010, p. 8). According to Albs, motivation is the sum of the motives which influence human behavior in regards of its content, the direction and intensity (Albs 2005, p. 15). In regards to hierarchy and characteristic, motives are different for each individual, since they are the result of learning processes during the life cycle and the social surroundings. Since the social environment of an individual is changing continuously motives will change as well and are only relatively stable over time (Pruckner 2000, p. 54). According to Nerdinger a situation does have an impact on human motives, activates them and initiates behavior. He even draws the line further by introducing incentives as the characteristics of a situation that can stimulate the motives. Incentives request the performance of certain actions and the omission of others (Nerdinger 2003, p. 3). Situational influences which are dominating the motivational process are not relevant for actions as such but only in regards to their perception (Jost 2000, p. 105). Values are the convictions of a person in regards to things that are seen as important and desirable. The sum of those convictions form the value system of a person, which influences the goals and perceptions of an individual (Jost 2000, p. 47). These definitions lead to the following motivational process.

Figure 1: Motivational Process



## SPECIFICATIONS HOSPITALITY INDUSTRY

The main characteristics of services are that the 'product' is immaterial, that services are highly bound to a specific place, services cannot be provided in advance, they are not storable and they are characterized by the simultaneous contact of consumer and supplier while the consumer usually is part of the service in question (Beinlich 2000, pp. 26–27). Additionally, services do have an increased risk at purchase and make a quantification difficult, services can hardly be standardized and are highly individual (Henselek 1999, pp. 5–6). Furthermore, service is an experience for the guest and a performance for the server. It is intangible and the guest and the server are both part of the transaction. This personal element makes service quality control difficult (Barrows et al. 2012, p. 515).

Concerning the employees, the immateriality of services means that the product of their work is hard to measure and to evaluate. Therefore incentives can hardly be linked to the outcome of the service process, since the objective evaluation thereof is nearly impossible. Furthermore, the immateriality of services enhances the focus on the perceived situation, since employees do hardly experience outcomes which are positive from an objective perspective and which therefore may activate their motives into motivation. The next specification is the simultaneity of production and consumption of services. For the producing employees the simultaneity means that they are unable to make a service they experienced as bad over, to redo it. So if they experience a depressing situation due to their misdoing they are unable to solve the situation by repeating it and doing it better. That leads to the fact that employees in

the hospitality industry need to cope with such situations, which may also threaten their motivation. Due to the inexistence of service-storage, hotel personnel has to be present whenever there might be a demand for their services, independent from the actual amount of demand. The different levels of demand may lead to periods of high stress levels and their opposite. For the hotel as employer it is therefore very hard to create a situation of optimum arousal for each employee. The threat of excessive demand and boredom is always given, harassing the intrinsic motivation. The next factor characterizing hotel services is that they are stationary. For the employees as well as for the guests that means that they have to be present at the hotel in order to deliver respective receive the service.

This characteristic might be influencing the motivational process as shown above if employees pursue the goal to work from home or to live and work at a specific place which is not where their current employer is. Such motives will hardly be activatable in a hotel so that the motivation of those employees is very hard, should they not have other, different motives as well. The presence and influence of the guest as an external factor is the next characteristic of hospitality services. In the motivational process that leads to the fact that guests play an important role in the perceived situation of an employee, which creates the incentives activating his or her motives. This external variable is therefore crucial for the motivation of employees but very hard to control by the employer or leaders of the employee. Another specification of services is that they are abstract. That makes it hardly possible to measure services in advance or to have objective measures about their value. For the motivation of employees this implies that their might be guests who did expect another service for the price they are paying or a different price for the service they received. Such complaints, addressed to the employee, are hard to reason. Even more, if the guest was unsatisfied with the personal service of the employee he or she is speaking to. Such situations may easily turn into frustration for the employees since they do have very few objective arguments on their side. For the hotel the fact that services are abstract increases the pressure to have motivated employees who will deliver a service of the standard the hotel promises. The last specification of the hospitality industry is their limited adaptability, which leads to nearly the same implications than did the abstractness of services. Since services are hardly adaptable to the wishes of a guest, service personnel might be confronted with dissatisfied guests. These situations may become very frustrating for the employee if he or she is not able to change the service or the situation. Furthermore, an employee in the hospitality industry in Germany earned an average of € 25,265.00 in 2012, while the average over all sectors in Germany was € 40,692.00 for that year, leaving the hospitality industry as one of the lowest paid industries (Statistisches Bundesamt Deutschland 2013).

These deductions lead to two main conclusions about the motivational process in the hospitality industry. Firstly the situation of an employee is mainly characterized by the guest and therefore not always under direct influence of the employer. It is therefore of outermost importance that employees are guided how to deal with such situations, which stresses the importance of leadership. Furthermore, due to the poor working

conditions one can deduct that the value system of employees in the hospitality industry is directed towards delivering service which leads to a high intrinsic motivation.

## LEADERSHIP

The words 'leader' and 'leadership' did not come into the English language until the 13th century. It came from the Anglo-Saxon 'leiden' which is to go forward, or to go up to. And it was then used usually to describe the person at the head of an army (Ramsden 2008, p. 20). Today, researchers usually define leadership according to their individual perspectives and the aspects of the phenomenon of most interest to them (Yukl 2006, p. 2). Taking into account different viewpoints, leadership may be defined as the process of translating company goals into visions, which are understandable and shareable by different stakeholder groups and influencing employees to share those visions and coordinately work towards them.

In the first decade of the 20th century, trait theories of leadership were dominant, assuming that certain characteristics of a person influence the quality of leadership. In the 30ths, leadership style theories were developed which assumed that the success of leadership depends on the style in which leadership is executed. Since a certain leadership style did not prove successful in all situations, situational leadership theories were developed in the 1960ths (Hungenberg, Wulf 2006, p. 331). A fundamental transformation occurred in management approaches to leadership in the late 1970s and 1980s, moving away from the idea that leadership is about 'engineering' outcomes, to a more relationship-based approach (Riggio 2011, p. 123). Generally, these newer models treat leadership as a change process and the leader as a primary catalyst of change (Glynn, DeJordy 2010, p. 125). The idea is that today's organizations, with flatter, hierarchical structures and technologicallysavvy and knowledgeable workers, leadership is a joint venture between those in positions of authority and those doing the work (Riggio 2011, p. 125). One of the most discussed models is the Leadership-Member-Exchange-Theory (LMX Theory) introduced by Graen and Uhl-Bien in 1995. LMX asserts that effective leadership is determined by the quality of interaction between the leader and particular group of members/followers. According to LMX the leader develops different types of dyadic relationships with followers, some of which are high-quality while others are low-quality relationships (Riggio 2011, pp. 123–124). Another recent and widely discussed approach to leadership focusing on the relationship between leaders and followers is the transactional / transformational approach to leadership. According to Bass and Avolio, there are four components of transformational leadership: idealized influence, inspirational motivation, intellectual stimulation and individualized consideration (Bass 1997, p. 21). Transformational leaders transform the self concepts of their followers. They build personal and social identification among followers with the mission and goals of the leader and organization. The followers' feelings of involvement, cohesiveness, commitment, potency, and performance are enhanced (Bass et al. 2003, p. 209).

Today transformational leadership is believed to be the most effective one. Transformational leadership is perceived to be different and more effective than the traditional transactional approach, because it engages the follower's emotions (Cartwright, Pappas 2008, p. 160). Leaders with an idealized influence are admired and respected by their followers. Such leaders may be able to achieve that their feedback is of greater value to the follower than the feedback of an (unsatisfied) guest or customer. This way, leaders with an idealized influence can help followers to see the situation in a more optimistic way which may lead to motive-activating incentives for the followers. If a leader is able to create an inspirational motivation for his or her followers, those followers are likely to have goals and therefore motives which are in line with the company goals. Furthermore, inspirational motivating leaders are able to create a team spirit which helps the individual to cope with difficult situations without getting frustrated. If leaders stimulate their followers to question old assumptions, be more creative and see challenges from a different perspective they do not only keep routines interesting for their employees they also help them to develop strategies how to deal with different kinds of challenging situations. With a leader who pays individual attention to his followers and considers their achievements, employees are more likely to find incentives in their day-to-day situations to activate their motives. Transformational leaders are expected to strongly and positively influence followers' motivation and their ability to achieve or even surpass goals. They encourage followers to become part of the overall organizational environment and its culture, and also empower followers by persuading them to propose new and controversial ideas without fear of punishment or ridicule (Bin Sayeed, Shanker 2009, p. 595).

## EMOTIONAL INTELLIGENCE

Beginning in the 1990s, the idea of emotional intelligence began attracting a good deal of attention, both among psychologists and in the popular press. Many people seem to agree that emotional intelligence is important, even though they are not exactly sure what it is (Shiota, Kalat 2012, p. 301). Earlier, emotional intelligence was not discussed because emotions were seen as "undesired influences on the logical-analytical behaviour and were left outside in order not to scratch the ideal of the rational acting manager" (Schlegel 2003, p. 13). Gardner did not use the term of emotional intelligence but by proclaiming a new set of intelligences, including interpersonal and intrapersonal intelligences; he therewith laid the foundation for the concept of emotional intelligence, which was mainly developed by Goleman. The core capacity of intrapersonal intelligence is access to one's own feeling life - one's range of affects or emotions: the capacity instantly to effect discriminations among these feelings and, eventually, to label them, to enmesh them in symbolic codes, to draw upon them as a means of understanding and guiding one's behaviour. The other personal intelligence, interpersonal intelligence turns outward, to other individuals. The core capacity here is to notice and make distinctions among other individuals and, in particular, among their moods, temperaments, motivations and intentions (Gardner 1993, pp. 239-240) . Goleman defines the intelligence of emotions as including abilities such as to motivate oneself and to continue despite

setbacks; to suppress impulses and postpone gratifications; to regulate own moods and to avoid that misery steals the ability to think; to put oneself into someone's position and to hope (Goleman 1996, p. 54). Salovey subsums the forms of personal intelligence proposed by Gardner under his basic definition for emotional intelligence which structures these abilities in five sections: Self-perception, to know one's own emotions; suitability, to handle emotions; goal-directed, to translate emotions into actions; empathy, to know what others feel; relationships, basis for popularity, leadership and interpersonal effectiveness (Salovey, Rothman 1991, pp. 280–282). Typically, researchers and theorists emphasize three major components of Emotional Intelligence: Perceiving emotions in facial expressions, music, art, and so forth. Understanding and reasoning about emotions. Managing emotions, such as calming oneself down or relieving someone else's anxiety (Shiota, Kalat 2012, p. 301).

There is a growing body of research evidence which has examined the relationship between EI and transformational leadership. Cartwright et al. assessed transformational leadership behaviors, using the Multifactor Leadership Questionnaire (MLQ: Bass and Avolio 1995), and EI using the EQ-i (Bar On 1997) among 49 managers in a large pulp and paper organization. Results indicated that high overall EI scores were associated with three out of four transformational leadership factors.

These were idealized influence, inspirational motivation and individualized consideration. No relationship was found between EI and the fourth factor, intellectual stimulation (Cartwright, Pappas 2008, p. 160). Effective leaders mostly rely on the expression of feelings to help convey their messages. So when effective leaders want to implement significant changes, they rely on the evocation, framing and mobilization of emotions (Trehan, Shrivastav 2012, p. 59).

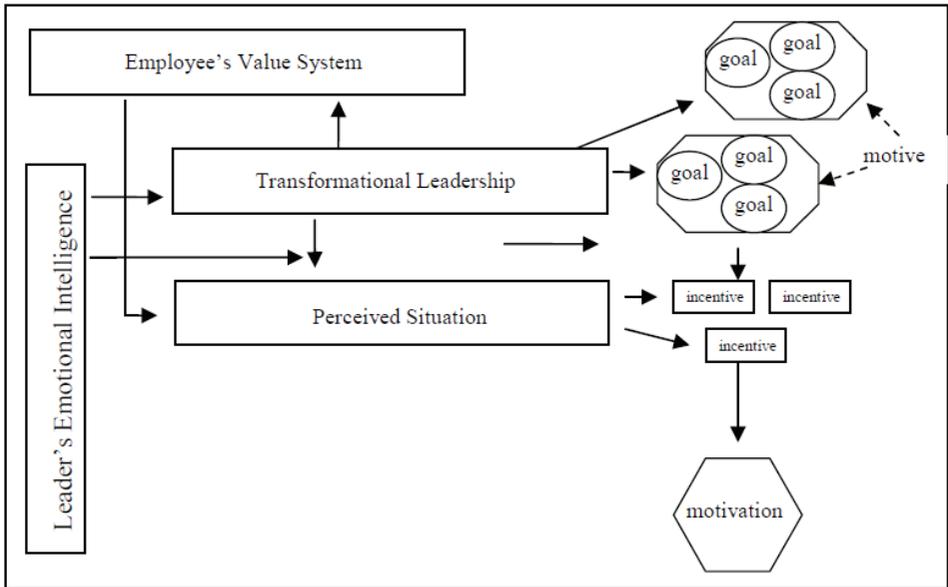
The components of emotional intelligence can be described as self-awareness, self-regulation, motivation, and empathy. Self-awareness expands a person's understanding and knowledge of his/ her values and goals. A leader, who is self-aware, may possess a greater sense of purpose and meaning in life. Self-regulation is referred to as 'managing emotions'; it allows a leader to be sensitive and understanding of subordinates without succumbing to vulnerability of criticism and the need to defend self-esteem. Motivation brings out the force of achievement by harnessing feelings of enthusiasm, zeal, and confidence. Empathy allows an individual to recognize and respond to the changing emotional state of other people resulting in greater sensitivity and social self-confidence (Bin Sayeed, Shanker 2009, p. 594). EI is found to be important for leadership, motivation, communication, decision making, interpersonal relations, and change management at 99% level of confidence. Based on these findings, it can be indirectly concluded that EI is important for success in professional life, as effectiveness in these competencies will lead to success in professional life of top management executives (Trehan, Shrivastav 2012, p. 65). Leaders are most likely to lead their followers if they have insights into the needs, values, and hopes of their followers. This insight may be facilitated through a higher

level of emotional awareness and sensitivity. Leaders can create emotional responses (for example, a sense of excitement and sharing a feeling of togetherness) in the followers, communicate and instill commitment toward a common vision and create shared norms. Focusing on individual followers, leaders should be supportive, considerate, empathetic, caring, and must give personalized attention. These requirements may be easier for an individual who is high on emotional intelligence and is able to accurately perceive and understand others' emotions, while managing his/her own emotions (Bin Sayeed, Shanker 2009, pp. 596–597) . Overall, the research evidence concerning EI and leadership effectiveness is somewhat mixed, which may be an artefact of the measurement tool employed. However, it would seem that the ability to perceive emotion, perhaps not surprisingly, is a factor associated with effective leadership (Cartwright, Pappas 2008, p. 161).

## TENTATIVE MODEL

The analysis of the process of motivation in the hospitality industry has made clear that the main focus has to be on the situation and how it is perceived by the employee, since this seems to be the main reason for lacking motivation. The discussion of leadership in this context has made clear that a leader is hardly able to change the situation itself, since the external factor is not under the leader's influence. The leader therefore has to tackle the way employees perceive situations, a task which seems to be the easier the more emotionally intelligent the leader acts. As shown in the model below, transformational leadership is likely to have an influence on the employee's value system, his goals and motives as well as on the way a situation is perceived. These influences are believed to be strengthened if transformational leadership is paired with emotional intelligence. This is the tentative model how motivation, leadership and emotional intelligence could interact in the hospitality industry. The underlying hypotheses were deducted from literature review and the analysis thereof but have not been tested in practice yet, a task which is still to be completed.

Figure 2: Motivation, Leadership and Emotional Intelligence



## REFERENCES

Albs, Norbert (2005): *Wie man Mitarbeiter motiviert. Motivation und Motivationsförderung im Führungsalltag*. 1st ed. Berlin: Cornelsen.

Barrows, Clayton; Powers, Tom; Reynolds, Dennis (2012): *Introduction to the hospitality industry*. 8th ed. New Jersey: John Wiley & Sons.

Bass, Bernard M. (1997): Personal Selling and Transactional/Transformational Leadership. In *Journal of Personal Selling and Sales Management* 17 (3), pp. 19–28.

Bass, Bernard M.; Avolio, Bruce J.; Jung, Dong I.; Berson, Yair (2003): Predicting unit performance by assessing transformational and transactional leadership. In *Journal of Applied Psychology* 88 (2), pp. 207–218.

Beinlich, Martin (2000): *Qualitätsmanagement im Dienstleistungssektor. Eine empirische Untersuchung der Hotelbranche*. Jena: IKS GmbH.

Bin Sayeed, Omar; Shanker, Meera (2009): Emotionally Intelligent Managers & Transformational Leadership Styles. In *The Indian Journal of Industrial Relations* 44 (4), pp. 593–610.

Cartwright, Susan; Pappas, Constantinos (2008): Emotional intelligence, its measurement and implications for the workplace. In *International Journal of Management Reviews* 10 (2), pp. 149–171.

Gardner, Howard (1993): *Frames of mind. The theory of multiple intelligences*. 2nd ed. London: Fontana Press.

Gardner, Robert C. (2010): *Motivation and second language acquisition. The socio-educational model*. New York: Peter Lang.

Glynn, Mary Ann; DeJordy, Rich (2010): *Leadership through an organization behaviour lens. A look at the last half-century of research*. In Rakesh Khurana, Nitin Nohria (Eds.): *Handbook of leadership theory and practice*. Boston, Mass: Harvard Business Press, pp. 119–157.

Goleman, Daniel (1996): *Emotionale Intelligenz*. 2nd ed. München [u.a.]: Hanser.

Henselek, Hilmar (1999): *Hotelmanagement. Planung und Kontrolle*. München, Wien, Oldenbourg: Oldenbourg Wissenschafts Verlag GmbH.

Hungenberg, Harald; Wulf, Torsten (2006): *Grundlagen der Unternehmensführung*. Berlin, Heidelberg: Springer-Verlag.

Jost, Peter-Jürgen (2000): *Organisation und Motivation. Eine ökonomisch-psychologische Einführung*. Wiesbaden: Gabler.

Lenzner, Alwine; Dickhäuser, Oliver (2011): *Strategien der Motivationsregulation: theoretische Überlegungen und empirische Befunde*. In Markus Dresel (Ed.): *Motivation, Selbstregulation und Leistungsexzellenz*. 1st ed. Münster, Westf: LIT, pp. 11–28.

Nerdinger, Friedemann W. (2003): *Motivation von Mitarbeitern*. Göttingen: Hogrefe.

Pruckner, Matthias (2000): *Weg-Ziel-Theorien: Metaanalytische Betrachtung*. In Detlev Liepmann (Ed.): *Motivation, Führung und Erfolg in Organisationen*. Frankfurt am Main ;, New York: P. Lang, pp. 51–129.

Ramsden, John (2008): *Leadership creates superiority, management produces mediocrity*. In : *Management versus Leadership. With assistance of Matthias Hirzel*. 2nd ed. Frankfurt, M: HLP Management Connex, pp. 19–28.

Riggio, Ronald E. (2011): *The management perspective: engineering effective leadership in organizations*. In Ronald E. Riggio, Michael Harvey (Eds.): *Leadership studies. The dialogue of disciplines*. Cheltenham: Edward Elgar, pp. 119–128.

Salovey, Peter; Rothman, Alexander (1991): *Envy and Jealousy: Self and Society*. In Peter Salovey (Ed.): *The Psychology of jealousy and envy*. New York: Guilford Press, pp. 271–286.

Schlegel, Gunnar (2003): Emotionale Intelligenz und Emotionspsychologie. In Rolf Arnold (Ed.): Emotionale Kompetenz. Theorien und Anwendungen. 200th ed. Kaiserslautern: ZBT/Abt. Foto-Repro-Druck der Universität Kaiserslautern, pp. 13–22.

Shiota, Michelle N.; Kalat, James W. (2012): Emotion. 2nd ed. Australia ; Belmont, CA: Wadsworth.

Statistisches Bundesamt Deutschland (2013): Löhne und Gehälter 2012. Available online at [https://www.destatis.de/DE/ZahlenFakten/GesamtwirtschaftUmwelt/VerdiensteArbeitskosten/VerdiensteBranchen/Aktuell\\_Branchen.html](https://www.destatis.de/DE/ZahlenFakten/GesamtwirtschaftUmwelt/VerdiensteArbeitskosten/VerdiensteBranchen/Aktuell_Branchen.html).

Trehan, Daljit Rai; Shrivastav, U. S. S. (2012): Perception of Top Management Executives Towards Importance of EI for Professional Success. In IUP Journal of Management Research 11 (3), pp. 54–67.

Yukl, Gary A. (2006): Leadership in organizations. 6th ed. Upper Saddle River, NJ: Pearson/Prentice Hall.

# NARRATIVES FOR PROBING CONTEX OBSERVING SERVICE DESIGN AT WORK

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## ABSTRACT

Context is central for understanding value in SDL. However, little is written about how context is conceptualized for innovation and what approaches to use for understanding context. Based in service logic, service innovation and design practice literature, the paper empirically explores the contribution of design for understanding context in service innovation. Drawing on an ethnographic study of design collaboration with an industrial company a micro level analysis of a user-involvement workshop is conducted. It is found that designers through co-creation of narratives attend to users socio-technical context. Design practices contribute by focusing the impact of the industrial company's technology and service on the user's everyday and professional practices.

## INTRODUCTION

The concept of 'value-in-context' has been brought forward as central within the service dominant logic (SDL). It can be seen as a development of 'value in use' as it highlights the relations and interactions between resources integrators in a value co-creating situation rather than the more limited use situation. However, there seems to be a lack in methods understanding both what the context actually encompasses and how to probe it. Vargo, Maglio and Akaka (2008:151) formulated this as "What approaches do we need to understand the sociotechnical context of value creation?"

In S-D logic literature, context is understood as to the customer available resource constellations (Edvardsson et al., 2012) or more developed as unique set of actors, being hundreds or only two and their reciprocal links each constituting specific contexts (Chandler and Vargo, 2011). The context is thus unique for each and every service, holding implication for how context can be operationalized for service innovation. Traditional approaches for understanding customers do not suffice for understanding context. However, design and designers have a long tradition in methods aiming at understanding use situations.

Research in design practices suggests that designers act as mediators between the client company and their potential end-users/customers; the designer being an interpreter and negotiator of social and technological contexts (Kimbell, 2011, Verganti, 2008). Especially the use of participatory approaches has shown useful (Sanders and Stappers, 2008) further methods for understanding and include context in the design process has been developed (Sleeswijk Visser et al., 2007). Furthermore, for service innovation, narrative techniques are suggested due to their ability to convey customers' experiences and services' process character (Helkkula and Pihlström, 2010).

## PURPOSE

The purpose of the paper is to contribute with knowledge regarding how context, or more specific the sociotechnical context, can be understood for service innovation. This is done by empirically explore and analyze in what ways designers use narratives in their mediating role between customer and client organizations in the early stages of service innovation. Implications for the client organization as well as for design practice are discussed.

## METHOD

This paper is based on a single case ethnographical study of collaboration between a client (an industrial agriculture company) and a design firm over a period of 10 months. Data collected by the paper's first author cover the initial project discussions, the participatory workshop, subsequent internal meetings and the final presentation for the client. In order to learn more about design practice contribution for gaining and interpreting socio-technical context this paper focuses explicitly on the workshop where designers worked with users [farmers] and representatives for the client company and its outcomes. The workshop used methodology based in design dialogues with an explicit aim to encourage the users to tell stories, and the final outcome was presented as a set of narratives. The data analysis followed the 6 steps proposed for thematic analyses when generating codes and themes from empirical data, although also including theoretical pre-understanding.

## RESULT AND DISCUSSION

This paper contributes to service dominant logic literature by 1) arguing design's contribution in operationalizing socio-technical context for service innovation, 2) developing the understanding of the applicability of design practice use of narratives for understanding, exploring and incorporating context in service innovation.

### Operationalizing socio-technical context

We argue that service design competence contributes to realize a service dominant logic for industrial manufacturing companies by using techniques that capture and operationalize the socio-technical context. This is done by an implicit focus on the users' practices, inquiring into the users' lived experience at large, rather than only in direct relation to the physical goods. The narratives that are co-constructed during this inquiry thus uncover in what ways the technology and present service influence the users' everyday practices, promoting some while hindering others. The designers then propose new service in line with the users' preferable and meaningful practices.

### The designerly use of narratives in service design

The explicit aim of the design method used in the workshop was to gain a deeper understanding of the users/customers through design dialogue. In

effect the dialogue developed to the co-creation of narratives, stories depicting a specific event and activities over time and containing a plot. These narratives also became the design material that the designers continued to work with after the workshop. Effectively also presenting the pre-study in the form of reshaped narratives for their client.

Kankainen et al. (2012) requested further research regarding the role of narratives in service design, and Helkulla and Pihlström (2010) have previously argued that narratives are beneficial for capturing the complexities of service, including cultural and social aspects of events. This study suggests that the narratives 1) makes the users' practices visible for the client company, and 2) becomes the design material, in themselves containing information about socio-technical contexts. Thus complementing previous research on the use of narratives for service innovation.

We argue that a service design approach is both useful and relevant for understanding socio-technical context. Further, service design uses narratives to understand users practices and further for proposing future solutions based on and in the socio-technical context.

## REFERENCES

Chandler, J.D. and Vargo, S.L. (2011), Contextualization and value-incontext: How context frames exchange. *Marketing Theory* 11(1), 35-49

Edvardsson, B., Kristensson, P., Magnusson, P. and Sundström, E. (2012), Customer integration within service development—A review of methods and an analysis of insitu and exsitu contributions. *Technovation* 32, 419-429

Helkulla, A. and Pihlström, M. (2010), Narratives and metaphors in service development. *Qualitative Market Research: An International Journal* 13 (4354-371)

Kankainen, A., Vaajakallio, K., Kantola, V. and Mattelmäki, T. (2012), Storytelling Group—a co-design method for service design. *Behaviour & Information Technology* 31 (3), 221-230

Kimbell, L. (2011), Designing for Service as One Way of Designing Services. *International Journal of Design* 5 (2)

Sleeswijk Visser, F., Van der Lugt, R. and Stappers, P.J. (2007), Sharing user experiences in the product innovation process: Participatory design needs participatory communication. *Creativity and Innovation Management* 16 (1), 35-45

Vargo, S., Maglio, P. and Akaka, M. (2008), On value and value cocreation: A service systems and service logic perspective. *European Management Journal* 26, 145-152

Verganti, R. (2008), Design, Meanings, and Radical Innovation: A Metamodel and a Research Agenda. *Journal of Production and Innovation Management* 25 (5), 436-456

# OPEN SERVICE INNOVATION AND CO-CREATING THE VALUE PROPOSITION IN THE GLOBAL AUTOMOTIVE SECTOR

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## ABSTRACT

Increasingly, service organizations seek to facilitate external parties to co-create value propositions. The purpose of this paper is to examine the emergent motivations, behaviors, and practices of service organizations and participants who co-create value propositions in online community based idea contests in order to understand how participants co-create value propositions. We present the findings of a multiple case of three online community based idea contests hosted by three global automotive service providers. The findings reveal that participant behavior was determined by the overlapping roles adopted by participants and contested competitive and collaborative motivations. We conclude with six propositions relating to the co-creation of value propositions.

## OVERVIEW OF OPEN SERVICE INNOVATION AND SERVICE INNOVATION IDEA CONTEXTS

All organizations today can be described as service organizations, which are involved in service-for-service exchanges. In today's hypercompetitive market, many service organizations have migrated from a "closed service innovation" approach to an "open service innovation" approach in order to co-create value propositions with customers. While "closed" innovation approaches are internally focused and limited by the resources available within the firm, open service innovation seeks to identify, access, assimilate, and leverage the abundant knowledge and resources that exist beyond the boundaries of the firm in order to co-create value with external innovators.

Open business models facilitated by collaborative social technologies have greatly facilitated cooperation between service organizations and current and prospective customers in relation to open service innovation, resulting in vibrant online user innovation communities such as Dell's Ideastorm, IBM's Innovation Jam, Innocentive, Nine Sigma and Threadless. While online communitybased idea contests are driving a new era of open service innovation and development, which inspire participants to co-create new service ideas, there is a paucity of information in relation to the contested competitive and collaborative nature of such contests which encourages and motivates participants to co-create value propositions. While involving participants in tasks ranging from service design to quality control to co-creating value propositions may be beneficial for organizations and are growing in popularity (Nambisan 2002; Fuller et al. 2006; Adamczyk et al. 2012), online idea contests also present challenges, as well as potential downsides for participants themselves (Nambisan 2002). While the diverse benefits of such online user innovation communities have been well documented (c.f. Dahlander and Magnusson 2008; Di Gangi et al. 2010; Brabham 2010; Chesbrough 2011), the specific benefits and

potentially darker side of online community based idea contests have received less attention. The specific focus of this paper is to increase our knowledge about the motivations, emergent behaviors, and practices of service organizations and participants who co-create value propositions in online community based idea contests and to examine the implications for service innovation.

## METHODOLOGY

In this paper, we adopt a multiple case study methodology (Yin 1994; Eisenhardt and Graebner 2007), which comprised detailed netnographic analysis of over 3,000 participants in three online community based idea contests hosted by three global automotive service providers in order to determine why and how users, facilitated by collaborative technologies, co-create value propositions with both the service organization and other customers. The contests studied were Volkswagen's App my Ride, BMW's Urban Mobility Services Contest, and Smart's Design Contest (see Table 1).

Table 1: Characteristics of the three selected idea contests

Criteria	App My Ride Contest	BMW Idea Contest	Smart Design Contest
Task specificity	High (seeks Apps and ideas for a future Volkswagen infotainment system)	High (new ideas for mobility services in tomorrow's urban areas)	High (design the exterior of a Smart Fortwo)
Degree of idea elaboration	Text-based description of idea, supplemented by graphical representation; implementation of application prototype	Text-based description of the idea's functionality, target group, benefits, and uniqueness; Supplemented by graphical representations	Presentation of design from 4 exterior perspectives of the vehicle: front, rear, left and right side.
Toolkit provided	Software development kit; Online form for submitting ideas	Online form for submitting Ideas	Online application for mapping designs onto various perspectives of the Smart Car
Organizational appearance	Online, community-based environment; User profiles, comments and evaluation sections	Online, community-based environment; User profiles, comments and evaluation sections	Online, community-based environment; User profiles, comments and evaluation sections
Duration	8 weeks	6 week	7 week
Incentives	3 x monetary prizes	4 x non-monetary prizes	6 x monetary prizes

The BMW Group Idea Contest sought new ideas for mobility services in tomorrow's urban areas. In this sense, BMW was attempting to predict future mobility trends in the automotive sector using the experiences and creative potential of participants. Participants included commuters, city drivers, business people, electric car users, BMW owners and non-BMW owners of all ages. The Volkswagen's App my Ride contest sought "Apps" (Applications) and Ideas for a prototype of a future Volkswagen infotainment system (a portmanteau of information-entertainment). Participants included application developers; students; drivers and passengers who use infotainment systems; VW owners; non-VW owners of all ages. Finally, Smart's Design idea contest provided participants with an opportunity to express their creativity by producing exterior designs for Smart's FourTwo car, in addition to providing participants with a platform to discuss, evaluate and comment upon each other's designs. In this context, participants were mainly designers, Smart car users as well of some non-Smart car users.

Table 2: Community based idea contests research data summary

Platform	App My Ride Contest	BMW Idea Contest	Smart Design Contest
Ideas	386	312	52624 (Designs)
Applications	96	N/A	N/A
Members	553	640	9600
Evaluations	1996	8671	608878
Messages	1291	2741	15245
Comments	1450	2168	27329

Data for the three case studies was collected over a thirteen-week period, from May 3rd to August 2nd 2010 using netnography, interviews and naturalistic observations (Eisenhardt and Graebner 2007; Kozinets, 2010) (for summary, see Table 2). In adopting a netnographic approach (Kozinets 1998; 2010) supplemented with in-depth on-line personal interviews, a detailed exploration of the language, practices, rituals, experiences, motivations and behaviors of participants in the three contests as they co-created value propositions with the host organization was possible.

## FINDINGS

The research findings indicate that participants iteratively adopted a number of diverse and overlapping roles, regulated by emergent community values and norms, when co-creating value propositions in Community Based Idea Contests. Furthermore, participants were intrinsically and extrinsically motivated by sometimes conflicting cooperative and competitive concerns as they iteratively co-created value propositions with service organisations. The findings suggest that participants' intrinsic, extrinsic, competitive, and cooperative motivations and relationships all impacted on participant behavior in the community-based idea contests studied. In turn, the community norms and values that emerged in the community based idea

contests studied influenced participants' value creating practices.

While both lead and ordinary users actively participated in all three contests, we observed the fluid transformation of various contextual roles adopted by participants. The participant roles adopted during the ideation and concept developments phases of the open service innovation process depending on the task or the activity included: Problem Identifiers, Idea Generators, Designers, Developers, Motivators, Leaders, End Users, Evaluators, and Lurkers. While participants sometimes adopted different roles in different contexts, different types of engagement with the community characterized each role.

## DISCUSSION

We elaborate and discuss six propositions induced from the multiple case study findings relating to the motivations, behaviors, and practices of contest participants and companies who participate in online community based idea contests. We propose that participation in community-based idea contests is determined by participants' intrinsic and extrinsic motivations, their desires to compete or collaborate combined with the community relationships, norms, and values that develop (Ardichvili 2008; Leimeister et al. 2009; Hutter et al. 2011).

Community members adopt multiple roles when co-creating value propositions with organizations in these online community based idea contests as part of a finely balanced social system, which sometimes creates tensions with the commercial motivations of the service organization hosting the contest (Hoyer et al., 2010; Hutter et al., 2011). Factors such as reciprocity, altruism, reputation, and community identity also influenced participation, in addition to the presence or absence rewards or other monetary incentives.

## IMPLICATIONS FOR RESEARCHERS AND PRACTITIONERS

The implications of the research are that online community based idea contexts enable both lead and ordinary users, motivated by a combination of monetary, non-monetary, and social factors, to contribute and co-create not only ideas but to also design and develop service concepts and prototype applications with commercially oriented service organizations, while at the same time providing a platform for dialogue and participant evaluation on service innovation-related activities. Such contests enable service organizations to directly assemble and engage with an online innovation community comprising different technological, cultural backgrounds, levels of expertise and consumption preferences in order to co-create value propositions that customers could not create independently.

While community members are a valuable resource for service organizations as they identify and analyze opportunities, provide ideas and feedback and collectively evaluate the finalized service innovation from an end-user perspective, they are a resource that needs to be respected, appropriately facilitated and possibly rewarded using a combination of monetary and non monetary incentives. Organizations should proactively recruit willing

participants for their contests and ensure that they provide participants with an appropriate combination of monetary or nonmonetary rewards for participants in such contests. Service organizations should not just consider the insights of lead users in open service innovation but should also recognize the valuable contribution of ordinary users. While ordinary users may have difficulties engaging with any technical issues that may arise in a particular idea contests, they can act as inspiration for creativity and innovation. Finally, the governance of community based idea contests requires the host service organization to carefully and critically negotiate between the contest rules and their enforcement and the social practices and sanctions imposed on and by participants for perceived breaches of the community norms and values. It is clear that contest participants are not oblivious to the fact that they were contributing possibly lucrative service ideas and concepts to service organization for relatively little reward however they may be willing to do so if they obtain relevant social, monetary and other rewards.

## REFERENCES

- Ardichvili, A., (2008). "Learning and knowledge sharing in virtual communities of practice: motivators, barriers and enablers," *Advances in Developing Human Resources*, 10(4) 541-554.
- Brabham, D.C., (2010), "Moving the crowd at Threadless," *Information, Communication and Society*, 13(8) 1122-1145.
- Bullinger, A.C., Neyer, A.K., Rass, M. and Moeslein, K.M., (2010), "Community-based innovation contests: Where competition meets cooperation," *Creativity and Innovation Management*, 19(3) 290- 303.
- Chesbrough, H.W., (2011), "Bringing open innovation to services," *MIT Sloan Management Review*, 52(2) 85-90.
- Dahlander, L. and Magnusson, M., (2008), "How do firms make use of open source communities?" *Long Range Planning*, 41 629-649.
- Di Gangi, Paul M., Wasko, M.M. and Hooker, R.E., (2010), "Getting ideas to work for you: learning from Dell how to succeed with online user Innovation communities," *MIS Quarterly Executive*, 9(4) 213-228.
- Eisenhardt, K.M. and Graebner, M.E., (2007), "Theory building from cases: opportunities and challenges", *Academy of Management Journal*, 50(1) 25-32.
- Füller, J, Bartl, M., Ernst, H. and Muhlbacher, H., (2006), "Community based innovation: how to integrate members of virtual communities in new product development," *Electronic Commerce Research*, 6 57-73.
- Hoyer, W.D., Chandy, R., Dorotic, M., Krafft, M. and Singh, S.S. (2010), "Consumer cocreation in new product development", *Journal of Service Research*, 13(3) 283-296.

Hutter, K.; Hautz, J.; Fuller, J.; Mueller, J. and Matzler K., (2013), "Communitition: The tension between competition and collaboration in community-based design contests", *Creativity and Innovation Management*, 20(1) 3-21.

Kozinets, R.V., (2010), *Netnography Doing Ethnographic Research Online*, Sage Publications, London.

Kozinets, R.V., (1998) "On Netnography: initial reflections on consumer research investigations of cyberculture," *Advances in Consumer Research*, 25 366-371.

Leimeister, J. M., Huber. M., Bretschneider, U. and Krcmar, H., (2009), "Leveraging crowdsourcing: activation-supporting components for ideas-based competition," *Journal of Management Information Systems*, 26(1) 197–224.

Nambisan, S., (2002), "Designing virtual customer environments for new product development: toward a theory," *Academy of Management Review*, 27(3) 392 – 413.

Neyer, A.K, Bullinger, A.C. and Moeslein, K.M., (2009), "Integrating inside and outside innovators: a sociotechnical systems perspective," *R&D Management*, 39(3) 410-419.

Surowiecki, J. (2004), *The Wisdom of Crowds*, Anchor Books, New York.

Yin, R. K. (1994). *Case Study Research: Design and Methods* (2nd ed.). Sage, Newbury Park, CA.

# OPTIMIZING PORTFOLIO DECISION-MAKING IN SERVICE INNOVATION – A CONCEPTUAL FRAMEWORK

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## ABSTRACT

In this study we aim to create a conceptual framework, to help identify potential barriers and facilitators of the screening aspect of portfolio decision-making, with a focus on service innovation portfolios. Based on a literature review a conceptual framework is proposed, aimed at analyzing the potential influence of coordination on the effectiveness of portfolio decision-making. Combining success factor research streams develops the conceptual framework and incorporates identified research gaps in portfolio decision-making. By integrating different literature streams, a more holistic approach is chosen, which finally results in the development of a research agenda, encouraging future research.

## INTRODUCTION

The creation of value<sup>2</sup> is the core objective of economic exchange (Woodruff, 1997). To remain viable, organizations must innovate continuously, introducing a mix of entirely new and improved services (Barile and Polese, 2010, Frei, 2008, Schilling, 2009)<sup>3</sup>. However, in recent years complexity in managing the value creation process has dramatically increased. The unit of value creation shifted from individual services<sup>4</sup> to ‘constellations’, i.e., larger systems of services (Van Riel et al., 2013, Juettner and Wehrli, 1994). In this research, we focus on the screening aspect of the portfolio decision-making process. Portfolio decision-making is a form of

<sup>1</sup> Corresponding author: a.denambtman@fm.ru.nl

<sup>2</sup> “Value for customers means that they, after having been assisted by the provision of resources or interactive processes, are or feel better off than before” FIOLE, C. M. & LYLES, M. A. 1985. Organizational learning. *Academy of Management Review*, 10, 803-813, GARVIN, D. A. 1993. Building a learning organization. *Harvard Business Review*, 71, 78-91.

<sup>3</sup> In the end, competitive advantages of a firm depend on realizing the innovation strategy GRÖNROOS, C. 2008. Service logic revisited: Who creates value? And who co-creates? *European Business Review*, 20, 298-314.

<sup>4</sup> In general, ‘service’ refers to both tangible and intangible products, according to the service dominant logic SCHILLING, M. A. 2009. *Strategic management of technological innovation*, New York, McGraw-Hill/Irwin. Consumers make use of services and therewith experience value co-created by suppliers and consumers VARGO, S. L. & LUSCH, R. F. 2004. Evolving to a new dominant logic for marketing. *Journal of Marketing*, 68, 1-17.

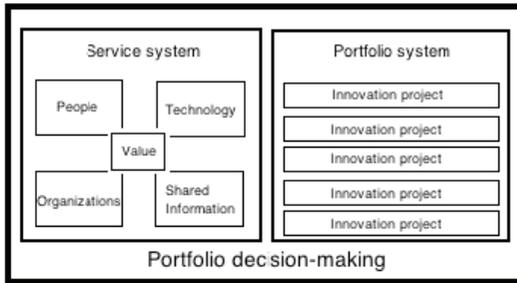
investment decision-making and a decisive step in the realization of an innovation strategy (Kester et al., 2011, Chao and Kavadias, 2008). Portfolio decision-making can be defined as: “A dynamic decision process whereby a business’ list of active projects is constantly updated and revised. In this process, new projects are evaluated, selected and prioritized; existing projects may be accelerated, killed or deprioritized; and resources are allocated and reallocated to active projects” (Cooper et al., 1999, p. 335). An innovation portfolio (henceforth referred to as portfolio) is a set of interdependent<sup>5</sup> (Killen and Kjaer, 2012) innovation projects (henceforth referred to as projects), which need to be aligned with the innovation strategy (Hauser et al., 2006). Responsible for the evaluation, prioritization and selection of projects in a portfolio are portfolio decision-makers (Cooper et al., 2001a). Portfolio decision-makers are generally active at top management level and can either form a team, or a committee, or act individually.

The portfolio decision-making process can be situated at an early stage of the stage-gate decision-making model (Cooper, 1992). Screening decisions are based on often ambiguous and insufficient information (Hammedi et al., 2011). Besides, the screening criteria themselves are often ambiguous and variable (Hammedi et al., 2011). This ambiguity makes it very difficult to properly evaluate and prioritize project proposals. Furthermore, screening of innovation project proposals requires taking into account several dependencies. First, because the innovating organization is more and more considered to be part of a larger ‘service system’ (Spohrer et al., 2007, Maglio and Spohrer, 2008), which includes, e.g., customers and providers. Second, portfolio decisionmakers need to consider the existing portfolio as a whole, since the value creation potential of a portfolio of services is potentially larger than the sum of individual services considered in isolation (Kavadias and Chao, 2007). Accordingly, we view the portfolio as a system of various innovation projects. Therefore, screening service innovation projects in isolation may be inappropriate, especially in the above-mentioned cases<sup>6</sup>. This observation implies that portfolio decision-makers need to consider both the ‘service system’ of each new service project, and the ‘portfolio system’ as a whole, to increase the effectiveness of the portfolio decisionmaking process. Figure 1 depicts complexity in portfolio decision-making and explains a more holistic focus with respect to other literature by connecting service and portfolio systems.

<sup>5</sup> Interdependency refers to reciprocity and interconnectedness. Interdependencies are the reciprocal linkages between elements, e.g. innovation projects.

<sup>6</sup> In the end, screening should lead to realizing the innovation strategy and ‘improved’ and ‘better commercial’ services. The portfolio decision-making task means having the directing role in the development of (new) service innovations, while having an immense complexity. Thus, this task is difficult.

Figure 1: Complexity in portfolio decision-making



In the past, the focus in most portfolio decision-making literature has been on the distribution of scarce resources among competing projects (Kavadias and Chao, 2007) and on striking a balance between high-risk and low-risk innovation projects. Portfolio decision-making is often considered a resource distribution problem, where projects and especially their outcomes are considered to be relatively independent (Killen and Kjaer, 2012). Projects are thus screened individually, aiming at risk minimization and profit maximization (Chao and Kavadias, 2008, Girotra et al., 2007, Cooper et al., 2001b). Stressing the importance of strategic alignment (Cooper et al., 2001b) and a strategic orientation, Hauser et al. (2006) add that “the selection of a portfolio suggests that success requires an effective process that includes both strategy and repeated review to create a balanced, profit-maximizing portfolio” (p. 24).

Making portfolio decisions is complicated by the increased dynamics of the environment (Calantone et al., 2003), by information overload (e.g., by the presence of too much unnecessary or irrelevant information) or insufficient information (e.g., necessary information is uncertain or non-existent) (Van Riel et al., 2011) and by cross disciplinary backgrounds of decision-makers (e.g. in composition of a team) (Qiu et al., 2009, Talke et al., 2011). The need to explicitly consider innovation projects as ‘part of a portfolio’ further complicates the portfolio decisionmaking process (Girotra et al., 2007). However, an overarching portfolio view is needed since the creation of value by one service often depends on the firm’s other services, or on complementary, facilitating or supplementing services provided by other firms (Van Riel et al., 2013). The overall goal of portfolio decision-making is value optimization, which can solely be reached when considering the portfolio as a whole and not focusing on projects as isolated entities (Killen and Kjaer, 2012). Screening is also difficult, since a portfolio is a dynamic system; the innovation projects and the portfolio itself change over time (Hammedi et al., 2011). More difficulties arise since project interdependencies need to be taken into account (Killen and Kjaer, 2012) at very early stages in the decision-making process, e.g., during the screening stage. Currently, many portfolio tools and methods treat projects as isolated entities (Killen and Kjaer, 2012). However, these ‘traditional’ tools are no longer sufficient, because of a higher complexity and interdependencies between projects (Killen and Kjaer, 2012). In case of many interdependent projects in a portfolio, these interdependencies need to be taken into account for effective decision-making (Blau et al., 2004,

Verma and Sinha, 2002). Screening is part of portfolio decisionmaking. Therefore, portfolio decision-makers also need to take into account these interdependencies when screening. Furthermore, Kavadias and Chao (2007, p. 157) recommend a holistic portfolio view: "The theoretical structures that look at isolated decisions of the R&D 'funnel' (Wheelwright and Clark, 1992) should be extended to allow for a holistic process view. In addition, we should note that since the overall portfolio value emerges from single project outputs, we ought to look for new methods that aggregate the individual project information into a total value". Moreover, Holger et al. (2011, pp. 24-25) recommend the identification of antecedents, on project and company level, for a better understanding of project interdependencies in portfolio decision-making: "Future research should explore how further determinants on company and project level influence each other and how these interdependencies could be optimized". Decision-makers in organizations need to consider these, often complex, interdependencies while making screening decisions (Girotra et al., 2007, Kester et al., 2011).

To better understand how portfolio decision-makers consider project interdependencies in screening projects, we propose to investigate barriers and facilitators of portfolio decision-making. Since the study is an attempt to identify and better understand barriers and facilitators of effective portfolio decision-making, we position this research as a study identifying innovation success factors (Tronvoll et al., 2011, Droege et al., 2009). The identification of barriers can also help increasing the probability of success, because removing or mitigating these barriers can help make more effective portfolio decisions. In other words, the research question guiding this study is:

What are potential barriers and facilitators of effective portfolio decision-making?

The present study aims to identify potential antecedents of portfolio decision-making at the level of portfolio decision-makers and develops a research agenda.

## LITERATURE REVIEW

Portfolio decision-making and screening are complex activities, though several success factors were found. Several best practices or characteristics of successful portfolios are identified by Cooper et al. (1999) and Cooper et al. (2001b). These three characteristics can be seen as new product development (NPD) portfolio performance indicators (Kester et al., 2011). Strategic alignment refers to the degree to which the innovation portfolio is aligned with the firm's corporate strategy. Maximizing financial portfolio value refers to generated return on financial input. Portfolio balance refers, for instance, to the balance between incremental and radical innovations in the portfolio. Screening literature has identified several decision-making success factors: reflexivity (Carter and West, 1998, Hammedi et al., 2011, Widmer et al., 2009), transformational leadership of the chairperson (Dvir et al., 2002, Schippers et al., 2008), transactive memory systems (Hammedi et al., 2013), organizational climate (Bock et al., 2005), information acquisition, gathering and diffusion (Van Riel et al., 2004a).

## BUILDING A CONCEPTUAL FRAMEWORK

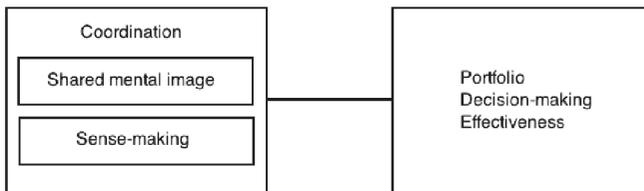
Although some success factors have been identified by past research, portfolio decision-makers need to address the steadily increasing complexity of innovation projects. Complexity in portfolio decision-making tasks poses a threat to portfolio decision-making effectiveness. By the term portfolio decision-making effectiveness we refer to the extent to which the objectives set in terms of optimal resource allocation (De Brentani and Dröge, 1988), including the right projects, and preventing to neglect successful ideas (Baker and Albaum, 1986) are achieved over time. In short, decision-making effectiveness concerns the relationship between outputs and the objectives set (Anthony and Govindarajan, 2003). Effective portfolio decision-making leads to the realization of the objectives set in an innovation strategy (Schilling, 2009) and the optimization of value creation by the portfolio. In a qualitative study, Kester et al. (2011) identified three potential antecedents of portfolio decision-making effectiveness. First, the presence of a portfolio mindset, which refers to making decisions based on an understanding of all projects in the portfolio and their alignment with the firms' strategy. Second, the occurrence of a focused effort focuses on the link between short-term actions and long-term goals. Third, decision-making agility refers to quickly shifting the development focus to include or exclude a project in or out of the portfolio.

Following Holger et al. (2011), Kavadias and Chao (2007) and Kester et al. (2011), we propose to investigate how the coordination and exchange of information between portfolio decision-makers and their organizational environment may help them make more effective portfolio decisions (Van Riel et al., 2004a). Coordination is seen as managing interdependencies among activities (Malone and Crowston, 1994). Coordination is: "Aimed at the adoption by all the members of the group of the same decision, or more precisely of mutually consistent decisions in combination attaining the established goal" (Simon, 1945, p. 190). Portfolio decision-makers need to coordinate several interfaces between the new service and various dimensions of the organization (Van Riel and Lievens, 2004b). Due to resource, temporal and logical interdependencies among tasks and activities in projects, portfolio decision-makers need to coordinate their decision-making over projects, organizations and customers (Hoegl et al., 2004). The development and presence of shared mental images affect decision-making effectiveness (Van Riel and Lievens, 2004b). They are mental representations of "various interfaces between service, customer, technology and firm" (Van Riel and Lievens, 2004b, p. 72). Sharing knowledge, the basis of shared mental images, may act as a necessary condition enabling portfolio decision-makers to coordinate their decisionmaking activities among mutual interdependencies (Ennabih et al., 2013). Shared mental images facilitate coordination. To develop shared mental images in ambiguous situations, like portfolio decision-making, sense making (Weick et al., 2005) may play a role. Portfolio decision-makers need to create a common vision, a collective representation, of a 'dynamic' future while reflecting on the past, present and future (Weick et al., 2005). This collective representation is an example of sense making. The extent to which portfolio decision-makers succeed in making sense of novel and ambiguous screening portfolio decision-making situations

(Stigliani and Ravasi, 2012), affects their decision-making effectiveness and the innovation process (Van Riel and Lievens, 2004b, Hoegl and Parboteeah, 2006, Edmondson and Nembhard, 2009). Besides, a better understanding of how sense making occurs could form a basis for action and guide learning processes (Weick et al., 2005), helping to improve actions as a result of reflection on new knowledge and understanding (Fiol and Lyles, 1985, Garvin, 1993).

In sum, the screening task in portfolio decision-making is increasingly complex, due to an increasing number of interfaces and interdependencies that require coordination. The relationship between coordination and portfolio decision-making effectiveness demands further research. Better coordination should lead to improved portfolio decisionmaking effectiveness (see Figure 2), an increased probability of realizing the innovation strategy and value creation. Other antecedents of portfolio decision-making effectiveness need to be identified in further research.

Figure 2 – Conceptual framework



## RESEARCH AGENDA

The specific questions that need to be answered in future research are:

1. How to measure portfolio decision-making effectiveness?
2. How to transform the academic knowledge into management practice (design of decision support tools)?

## REFERENCE

- ANTHONY, R. N. & GOVINDARAJAN, V. 2003. Management control systems, New York, McGraw-Hill/Irwin.
- BAKER, K. G. & ALBAUM, G. S. 1986. Modeling new product screening decisions. *Journal of Product Innovation Management*, 3, 32-39.
- BARILE, S. & POLESE, F. 2010. Smart service systems and viable service systems. *Service Science*, 2, 21-40.
- BLAU, G. E., PEKKNY, J. F., VARMA, V. A. & BUNCH, R. R. 2004. Managing a portfolio of interdependent new product candidates in the pharmaceutical industry. *Journal of Product Innovation Management*, 21, 227-245.

- BOCK, G.-W., ZMUD, R. W., KIM, Y.-G. & LEE, J.-N. 2005. Behavioral intention formation in knowledge sharing: examining the roles of extrinsic motivators, social psychological forces and organizational climate. *MIS Quarterly*, 29, 87-111.
- CALANTONE, R. J., GARCIA, E. & DRÖGE, C. 2003. The effects of environmental turbulence on new product development strategy planning. *Journal of Product Innovation Management*, 20, 90-103.
- CARTER, S. M. & WEST, M. A. 1998. Reflexivity, effectiveness and mental health in BBC-TV production teams. . *Small group research*, 29, 583-601.
- CHAO, R. O. & KAVADIAS, S. 2008. A theoretical framework for managing the new product development portfolio: when and how to use strategic buckets. *Management Science*, 54, 907-921.
- COOPER, R. G. 1992. Stage gate systems for new product success. *Marketing Management*, 1, 20-29.
- COOPER, R. G., EDGETT, S. J. & KLEINSCHMIDT, E. J. 1999. New product portfolio management: practices and performance. *Journal of product Innovation Management*, 16, 333-351.
- COOPER, R. G., EDGETT, S. J. & KLEINSCHMIDT, E. J. 2001a. Portfolio management for new product development: results of an industry practices study. *R&D Management*, 31, 361-380.
- COOPER, R. G., EDGETT, S. J. & KLEINSCHMIDT, E. J. 2001b. *Portfolio management for new products*, Cambridge, MA, Perseus Publishing.
- DE BRENTANI, U. & DRÖGE, C. 1988. Determinants of the new product screening decision: a structural model analysis. *International Journal of Research in Marketing*, 5, 91-107.
- DROEGE, H., HILDEBRAND, D. & HERAS FORCADA, M. A. 2009. Innovation in services: present findings, and future pathways. *Journal of Service Management*, 20, 131-155.
- DVIR, T., EDEN, D., AVOLIO, B. J. & SHAMIR, B. 2002. Impact of transformational leadership on follower development and performance: A field experiment. *Academy of Management Journal*, 45, 735-744.
- EDMONDSON, A. & NEMBHARD, I. M. 2009. Product development and learning in project teams: the challenges are the benefits. *Journal of Product Innovation Management*, 26, 123-138.
- ENNABIH, A., VAN RIEL, A. C. R. & SASOVOVA, Z. 2013. An exploration of the dimensions, antecedents and consequences of

implicit coordination processes for teams involved in new product development projects. *Academy of Management*. Orlando, FL.

FIOL, C. M. & LYLES, M. A. 1985. Organizational learning. *Academy of Management Review*, 10, 803-813.

FREI, F. X. 2008. The four things a service business must get right. *Harvard Business Review*, 86, 70-80.

GARVIN, D. A. 1993. Building a learning organization. *Harvard Business Review*, 71, 78-91.

GIROTRA, K., TERWIESCH, C. & ULRICH, K. T. 2007. Valuing R&D projects in a portfolio: evidence from the pharmaceutical industry. *Management Science*, 53, 1452-1466.

GRÖNROOS, C. 2008. Service logic revisited: Who creates value? And who co-creates? *European Business Review*, 20, 298-314.

HAMMEDI, W., VAN RIEL, A. C. R. & SASOVOVA, Z. 2011. Antecedents and consequences of reflexivity in new product idea screening. *Journal of Product Innovation Management*, 28, 662-679.

HAMMEDI, W., VAN RIEL, A. C. R. & SASOVOVA, Z. 2013. Improving screening decision making through transactive memory systems: a field study. *Journal of Product Innovation Management*, 30, 316-330.

HAUSER, J. R., TELLIS, G. J. & GRIFFIN, A. 2006. Research on innovation: a review and agenda for marketing science. *Marketing Science*, 25, 687-717.

HOEGL, M. & PARBOTEEAH, K. P. 2006. Team reflexivity in innovative projects. *R&D Management*, 36, 113-125.

HOEGL, M., WEINKAUF, K. & GEMUENDEN, H. G. 2004. Interteam coordination, project commitment, and teamwork in multiteam R&D projects: A longitudinal study. *Organization Science*, 15, 38-55.

HOLGER, E., PARBOTEEAH, K. P. & BOSS, J. Portfolio management, new product development and performance: a multi-level perspective. *Academy of Management meeting*, 2011 San Antonio.

JUETTNER, U. & WEHRLI, H. P. 1994. Relationship Marketing from a Value System Perspective. *International Journal of Service Industry Management*, 5, 54-73.

KAVADIAS, S. & CHAO, R. O. 2007. Resource allocation and new product development portfolio management. *Handbook of new product development and management UK*: Elsevier.

KESTER, L., GRIFFIN, A., HULTINK, E. J. & LAUCHE, K. 2011. Exploring portfolio decision-making processes. *Journal of Product*

Innovation Management, 28, 641-661.

KILLEN, C. P. & KJAER, C. 2012. Understanding project interdependencies: the role of visual representation, culture and process. *International Journal of Project Management*, 30, 554-566.

MAGLIO, P. P. & SPOHRER, J. 2008. Fundamentals of service science. *Journal of the Academy of Marketing Science*, 36, 18-20.

MALONE, T. W. & CROWSTON, K. 1994. The interdisciplinary study of coordination. *ACM Computing Surveys*, 26, 87-119.

QIU, T., QUALLS, W., BOHLMAN, J. & RUPP, D. E. 2009. The effect of interactional fairness on the performance of cross-functional product development teams: a multilevel mediated model. *Journal of Product Innovation Management*, 26, 173-187.

SCHILLING, M. A. 2009. *Strategic management of technological innovation*, New York, McGraw-Hill/Irwin.

SCHIPPERS, M. C., DEN HARTOG, D. N., KOOPMAN, P. L. & VAN KNIPPENBERG, D. 2008. The role of transformational leadership in enhancing team reflexivity. *Human Relations*, 61, 1593-1616.

SIMON, H. A. 1945. *Administrative Behavior: a study of decision-making processes in administrative organizations*, New York, NY, The Free Press

SPOHRER, J., MAGLIO, P. P., BAILEY, J. & GRUHL, D. 2007. Steps toward a science of service systems. *IEEE Computer Society Press*, 40, 71-77.

STIGLIANI, I. & RAVASI, D. 2012. Organizing thoughts and connecting brains: material practices and the transition from individual to group level prospective sense-making. *Academy of Management Journal*, In Press.

TALKE, K., SALOMO, S. & KOCK, A. 2011. Top management team diversity and strategic innovation orientation: the relationship and consequence for innovativeness and performance. *Journal of Product Innovation Management*, 28, 819-832.

TRONVOLL, B., BROWN, S. W., GREMLER, D. D. & EDVARDSSON, B. 2011. Paradigms in service research. *Journal of Service Management*, 22, 560-585.

VAN RIEL, A. C. R., CALABRETTA, G., DRIESSEN, P. H., HILLEBRAND, B., HUMPHREYS, A., KRAFFT, M. & BECKERS, S. F. M. 2013. Consumer perceptions of service constellations: Implications for service innovation. *Journal of Service Management*, 24, In press.

- VAN RIEL, A. C. R., LEMMINK, J. & OUWERSLOOT, H. 2004a. Hightechnology service innovation success: a decision-making perspective. *Journal of Product Innovation Management*, 21, 348-359.
- VAN RIEL, A. C. R. & LIEVENS, A. 2004b. New service development in high tech sectors: a decision-making perspective. *International Journal of Service Industry Management*, 15, 72-101.
- VAN RIEL, A. C. R., SEMEIJN, J., HAMMEDI, W. & HENSELER, J. 2011. Technology-based service proposal screening and decision-making effectiveness. *Management Decision*, 49, 762-783.
- VARGO, S. L. & LUSCH, R. F. 2004. Evolving to a new dominant logic for marketing. *Journal of Marketing*, 68, 1-17.
- VERMA, D. & SINHA, K. K. 2002. Toward a theory of project interdependencies in high tech R&D environments. *Journal of Operations Management*, 20, 451-468.
- WEICK, K. E., SUTCLIFFE, K. M. & OBSTFELD, D. 2005. Organizing and the process of sensemaking. *Organizational Science*, 16, 409-421.
- WHEELWRIGHT, S. C. & CLARK, K. B. 1992. *Revolutionizing New Product Development*, New York, NY, The Free Press.
- WIDMER, P. S., SCHIPPERS, M. C. & WEST, M. A. 2009. Recent development in reflexivity research: a review. *Psychology Everyday Activity*, 2, 2-11.
- WOODRUFF, R. B. 1997. Customer value: the next source for competitive advantage. *Journal of the Academy of Marketing Science*, 25, 139-153.

# **PASSIVE INTEGRATION OR MUTUAL CO-CREATION? EXPLORING THE ROLE OF STAKEHOLDERS IN SERVICE INNOVATION**

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## **ABSTRACT**

Following the service-dominant-logic, co-creation with customers and further stakeholders plays an essential role in service innovation processes. Research agrees on the potential and benefits of stakeholder integration in service innovation, but knowledge on current organisational practice is still missing. This exploratory interview study with innovation intermediaries investigates which stakeholders are integrated in service innovation. In which mode, passive, reactive or co-creative, are stakeholders integrated in the stages of the innovation process? Results show that mainly customers and employees are integrated - as co-creators for ideation and as passive and reactive resources for research and testing.

## **INTRODUCTION**

What is a rock concert without people in the audience dancing, singing and shouting? How can a travel agent sell a perfect trip without given information about the customers' likes or dislikes? As Vargo & Lusch (2004) established through the service-dominant-logic (SDL), it is the value co-creation through participation of the service recipient that makes a service.

Building on the SDL, service innovation research has developed strong interest in the integration of customers and users in service innovation (SI). Studies explore characteristics and suitability of specific customers and users across the stages of the SI process as well as suitable methods and benefits of customer integration in SI (Alam 2002; Carbonell et al. 2012; Skiba & Herstatt 2012; Matthing et al. 2004; Melton & Hartline 2010; Martin & Horne 1993). The focus on customers is recently being expanded to the integration of stakeholders from different organizations or the interplay of organizational units (Smith & Fischbacher 2005; Neyer et al. 2009; Gottfridsson 2012).

Still, research predominantly analyses stakeholder integration in picked out service industries or for specific actors. Only few studies in SI (e.g. Smith & Fischbacher 2005; Perks et al. 2012) consider internal and external stakeholders in their work. This paper wants to clarify which stakeholders, internal and external, get integrated in SI and at which step of the process integration is occurring. We also seek to explore whether stakeholder integration in practice is rather passive integration or mutual co-creation. This paper contributes to existing research on stakeholder integration in SI by looking at the integration of internal and external stakeholders, to gain a better understanding SI practice. As a first step in this paper, we provide an understanding for the state of the art of research on stakeholder integration in SI. Next, the research design and the findings from the interview study are presented. The article concludes with a discussion and

major implications of the findings.

## STATE OF THE ART

Literature on stakeholder integration in SI can be distinguished with respect to their focus on different stakeholders. First, literature on the integration of customers as a dominant stakeholder group in SI will be presented before literature with focus on other stakeholders is analyzed. Following, stakeholder integration is considered from an organisational perspective.

### Customer focus in co-creation of SI

The needs of the customer play a major role in SI: They are “the fundament of meaningful new service innovation” according to Bettencourt (2010, p.xx). The satisfaction of the customers unmet needs, the centrality of customer knowledge, create a demand for co-creation (shared innovativeness through personal engagement and sharing own experiences) throughout the SI process (Ramaswamy & Gouillart 2010). This is in analogy to the value cocreation of a service giving the co-creator the leading role in service performance. (Vargo & Lusch 2004; Lusch 2007; Prahalad & Ramaswamy 2004; Ramaswamy & Gouillart 2010). For the transfer of value co-creation to SI, customers, users, lead users or non-users of a service are analyzed as special types of customers in this context (Edvardsson et al. 2010). The benefits of customer integration in SI are obvious: Customer co-creation in SI has positive effects on the speed of time-to-market and the success of new services on the market (Carbonell et al. 2009). In contrast to the importance given to customer co-creation evidenced in research, direct interaction with customers and users in practice is scarce (Martin & Horne 1993).

### Further Stakeholders in co-creation of SI

According to Mention and Asikainen (2012), co-creation of SI does not only require the early and direct integration of customers, but also the integration of other market players that might add to value co-creation in SI through their perspectives and needs. In a broader view, SI relies on the expertise and collaboration of diverse individuals - customers, managers, employees and other diverse stakeholders (Rubalcaba et al. 2012; Prahalad & Ramaswamy 2004). Looking inside the organisation, it is reasonable that in small companies, the owner or manager and employees in general contribute to SI (Nicolajsen & Scupola 2011; Gottfridsson 2011; Smith & Fischbacher 2005). Thereby, special interest is given to front-line employees as internal stakeholders since they are expected to share a deep understanding of the customers' needs due to their daily contact (Smith & Fischbacher 2005). This suggests the integration of front-line employees in the early stages of SI, which is reported only in isolated cases (Gustafsson et al. 1999) – they are more likely to be integrated in late stages of the SI process (Melton & Hartline 2010).

Suppliers, partner organisations or the public are further external stakeholders for the co-creation of value already during SI and not only for the service performance (Lee et al. 2012). Perks et al. (2012), Perks

and Riihela (2004), Gottfridsson (2012) and Schleimer and Shulman (2011) have just started with research on stakeholder integration in SI, contributing with first evidence of external collaboration beyond customers and exploring the prerequisites for and the effects of joint SI. Still, the stage and the mode of integration, as developed for customer integration by Alam (2002) and Edvardsson et al. (2010) are yet unclear for stakeholder integration, going beyond customers.

### Stakeholder integration from an organisational perspective

Stakeholder integration in SI varies in intensity and emphasises different roles stakeholders can play in SI. For customer integration, Alam (2002) presents a four level model taking a customer activity perspective: (1) the passive acquisition of input by the innovating organisation, (2) information and feedback on specific issues, (3) extensive consultation with users and highest, (4) representation, the user joining a development team. Edvardsson et al.'s (2010) centre the role of a customer in their model: he can be the buyer, the subject of interest, a provider for information, a co-developer or the developer. Transferring these models from customer to stakeholder integration, supporting a perspective on organisational initiative, we suggest three stages of stakeholder integration, illustrated in figure 1.

Figure 1: The degree of stakeholder integration in three stages



The lowest degree of stakeholder integration is passive integration, equivalent to the customer role “subject of interest” (Edvardsson et al. 2010). Observations are a typical example for passive integration. Reactive integration perceives stakeholders as informants, e.g. when reacting on a question in an interview or keeping a diary. The highest stage in stakeholder integration is mutual cocreation, called “co-development” in Edvardsson et al. (2010), “representation” in Alams’ (2002) concept of customer involvement.

Studies of Magnusson et al. (2003) and Matthing et al. (2004) have shown that the integration of stakeholders like lead users and experts is possible and beneficial in experimental designs. With settings for scientific purposes and stakeholders that were not recruited and selected under real world/market conditions, these studies might not be able to reflect current practice. Alam (2002), Martin and Horne (1993) and Perks et al. (2012) provide a first feeling for the reality of stakeholder integration. But their empirical studies explore tight and unique settings, e.g. a single case on an insurance start up in Great Britain (Perks et al. 2012) or the B2B customer integration in the Australian finance industry (Alam 2002). A deep understanding of stakeholder integration across different industries, in central Europe, is still missing.

Contributing to a clearer picture of practice, we want to answer the following research questions: Which internal and external stakeholder groups get integrated into SI and in which stages of the process? Is the mode of stakeholder integration in practice passive, reactive or mutual co-creation?

## METHODOLOGY

To answer this research question, a qualitative, explorative approach has been chosen to create in-depth knowledge on the practice of stakeholder integration. To gain insight into practice across various industries in Germany, SI intermediaries were chosen as a source of information and expertise in the field. Intermediaries offer access to systematic SI. With the assignment of intermediaries by a clients' organisation, SI processes are getting evidenced and researchable. Intermediaries in SI usually follow an explicit pattern for SI - this enables them to compare and abstract different client projects they conducted over years.

To explore the practice of stakeholder integration, moderated or enabled by intermediaries, an interview study with a semi-structured interview guideline was chosen. This flexible approach allows improvisation and deep dives in rather natural conversations (Miles & Huberman 1994). According to Creswell (2008), the purposeful selection of participants was established in a systematic two step approach. After a broad web search for intermediaries working in the field of SI, open innovation or service design to open up the scope, 90 intermediaries in central Europe were identified. Within the inductively derived categories of intermediaries, representative and well established firms were contacted. 13 CEOs or leaders of the SI unit from predominantly German intermediaries with backgrounds in service design, service engineering, open innovation, user experience design and market research have been interviewed face-to-face or on the telephone. Interviews took an hour, in average. The relevant questions taken for this paper are "Whom do you integrate into the innovation projects, from within the company or externally?", „Do you integrate users or other stakeholders that are not in the core project team into the SI process and at which stages of the innovation process?“ The collected data was recorded and transcribed. Additionally information from the interviewees website and an excel query were used, to validate the interpretations of the researchers after coding.

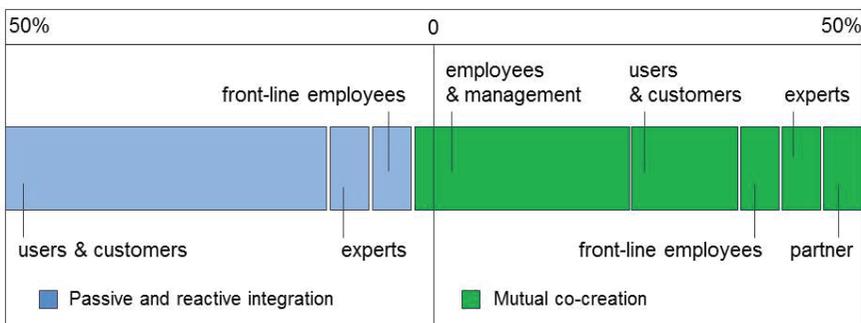
Transcripts were analyzed by two independent researchers using MaxQDA content analysis software to help structuring and recombining data, as proposed by Miles and Huberman (1994). Coding was organized deductively according to categories taken from literature and the research questions (Miles & Huberman 1994), following the guidelines given by Coffey and Atkinson (1996). After a first coding to structure the data, it was processed in two Excel sheets for recombination. For each quote on stakeholder integration, the stakeholder group integrated, the method used, the mode of integration and the phase of the innovation process were extracted and analysed in depth.

## FINDINGS

From the interviews with SI intermediaries, the result for the first research question emerged clearly: both the passive and reactive integration of stakeholders on the one side as well as the mutual co-creation with integrated groups on the other side are playing an important role (visualized in Figure 2). Users and customers as passive and reactive resources in the research phase and during testing appeared to be truly dominant in the analysis. For cocreation in innovation projects, employees from the organisation are the most important stakeholder group, followed by customers and users.

Looking closer at stakeholders from inside the organisation, the integrated employees turn out as either representatives of units that are affected by the SI, interested volunteers or experts for a specific professional subject needed in the project. Employees are integrated with emphasis on co-creation in workshops during ideation and development. Selectively, employees can take the role of an observer or interviewer in the research phase. The main reason for the integration of employees is the constant information of the client organisation on the process and the avoidance of the not-invented-here syndrome. As one interviewee put it, “you need the people from the company with you, because they will have to deliver the service afterwards. And if they are more involved in the process, they are more willing to accept a new service that they’ll have to deliver, because it’s their own baby.”

Figure 2: The degree of integration of the identified stakeholder groups

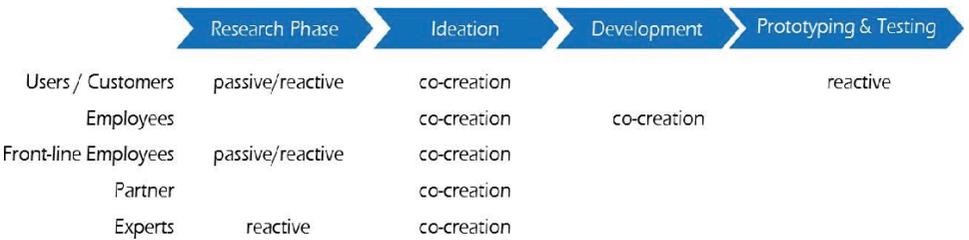


Front-line employees, as special internal stakeholders, play a passive or reactive role in the research phase when being observed or interviewed and in the testing/prototyping phase to give feedback on what has been developed. Besides these internal stakeholders, a high management position is always integrated in SI projects since the commitment of managers is seen as a crucial factor for the success of a project by the intermediary.

External stakeholder groups integrated in the explored SI processes are predominantly customers and users and sometimes experts and partners. The passive and reactive integration of customers and users through

observations and interviews is described as a basic and necessary step of the innovation projects' process. For co-creation in the ideation phase, the selection of the "right users" emerged as a critical issue. One interviewee stated that "a codesign workshop only works well, if you have the right people around the table". This is why intermediaries carefully select motivated customers of the targeted customer group for co-creation. External experts, as defined and selected by the intermediary, can be a reactive resource in the research phase and are integrated as co-creators for ideation in few cases to stock up the agencies' resources. Partners are reported to be integrated only in one case, for co-creation in the ideation phase.

Figure 3: Integrated stakeholders along the innovation process



Integration of stakeholders was found over all stages of the innovation process, with a much higher intensity in the early phases of the innovation process. Whilst the integration in the research phase has a passive and reactive character, the ideation phase is used as the stage for co-creation with stakeholders. During development, only employees of the client are integrated in a co-creation mode, whilst in prototyping and testing, it is about reactive integration of customers and users.

## DISCUSSION AND CONCLUSIONS

Adding to the few empirical studies on stakeholder integration in SI, this exploratory study shows that, within the analysed processes at intermediaries, customers emerged as the strongest external stakeholder group. Employees from inside the organisation, complemented by a high management position, represent the main internal stakeholders for SI. This study contributes by revealing that, in the given setting, the integration of customers is strongest in the research phase, as passive and reactive informants. These findings are in line with the results of Schultess et al. (2010) showing that customer integration tends to occur in the very beginning and the end of the innovation process. But different to the findings of Melton and Hartline (2010), our results show that customer integration is put into action rather in a reactive and passive mode than in direct interaction. Only during ideation, customers are integrated as co-creators in the definition of bi-directional and face-to-face communication (Gustafsson et al. 2012). Consistent with the importance of the early stages of the innovation process for SI in literature (Carbonell et al. 2009), the passive and reactive stakeholder integration of customers and users to gain access to needs before the ideation phase emerged as a key phase. Our findings suggest that external expertise is seldom represented in form

of selected experts from the SI topic. If integrated, external experts are a resource of information, coming from the intermediaries' network, not from the network of the client. This result might depend on the research setting where as intermediaries might not get engaged in collaboration with experts, suppliers, partners, etc. Perk et al. (2012) and Gottfridsson (2012) give evidence that service organisations do integrate partners and suppliers in service innovation processes. Yet, experts are not explicitly referred to in their studies either. Contrary to expectations raised by recent publications, the integration of stakeholders such as partners, suppliers or experts is limited. Managers might be aware of the fact that co-creation is a tough process: it is a costly and timely process and the methods used in co-creation workshops "need to push you until your brain hurts" as one interviewee expressed it. A SI project manager might retract from burdening a business relationship with new and unsecure co-creation work.

From inside the organisation, managers have been verified as "definite stakeholders" as also presented in the work of Smith and Fischbacher (2005). To prevent not-invented-here reactions, to keep internal stakeholders informed and to get access to internal experts, the integration of employees from different units is co-creative in most stages of the SI process. In relation to front-line employees, a picture of intermediate integration as cocreators in ideation and as a reactive resource in the research phase evolved. Even though stated only in a small number of cases, this finding contradicts Melton and Hartlines (2010) and Smith and Fischbacher's (2005) view that front-line employees remain a reactive resource in the very end of the innovation process, during full launch and promotion only.

## MANAGERIAL IMPLICATIONS

From a managerial point of view, this study suggests that stakeholder integration is an issue of thought not only during the ideation phase but through out the whole SI process. Reactive and co-creative integration of internal stakeholder groups like employees and high management and external stakeholders, customers are existent and need to be managed. Additional stakeholders like front-line employees and partners are not yet integrated in SI as much, but offer potential to be integrated in the future.

## LIMITATIONS AND FURTHER RESEARCH

A limitation of this study is that intermediaries as the object of research cannot reflect upon all organizational stakeholder integration activities since they might only conduct parts of a SI project. This is why the perspective of the service provider shall be examined in a next step. Second, this study shows that the identified stakeholders can be integrated in each stage of the SI process on an abstract level and does not imply that all stakeholders are integrated in several stages of one project. More in-depth insights stakeholder management and the practice of integration regarding groups such as front-line employees and partners, IT suppliers and further external groups are still needed. More qualitative research, case studies, is required to explore stakeholder management and give evidence on stakeholder integration strategies.

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## REFERENCES

- Alam, I., (2002), An exploratory investigation of user involvement in new service development. *Journal of the Academy of Marketing Science*, 30(3) 250-261
- Bettencourt, L.A., (2010), *Service innovation: How to go from customer needs to breakthrough services*. McGraw-Hill, New York
- Carbonell, P., Rodríguez-Escudero, A.I. & Pujari, D., (2012), Performance effects of involving lead users and close customers in new service development. *Journal of Services Marketing*, 26(7) 497-509
- Carbonell, P., Rodríguez-Escudero, A. I. & Pujari, D., (2009), Customer involvement in new service development: An examination of antecedents and outcomes. *Journal of Product Innovation Management*, 26 536-550
- Coffey, A.J. & Atkinson, P.A., (1996), *Making sense of qualitative data: Complementary research strategies*. Sage Publications, Incorporated
- Creswell, J.W., (2008), *Research design: Qualitative, quantitative, and mixed methods approaches*. Sage Publications, Incorporated
- Edvardsson, B., Edvardsson, P. & Kristensson, P., Magnusson, P., Sundström, E., (2010), *Customer integration in service development and innovation - methods and a new framework*. Research report. Karlstad University Studies 2010:35
- Gottfridsson, P., (2011), Development of new services in smaller organisations: They do just happen. *Australian Journal of Business and Management Research*, 1(7) 91-100
- Gottfridsson, P., (2012), Joint service development – the creations of the prerequisite for the service development. *Managing Service Quality*, 22(1) 21–37
- Gustafsson, A., Ekdahl, F. & Edvardsson, B., (1999), Customer focused service development in practice—a case study at Scandinavian Airlines System (SAS). *Journal of Service Industry Management*, 10(4) 344-358
- Gustafsson, A., Kristensson, P. & Witell, L., (2012), Customer co-creation in service innovation: a matter of communication? *Journal of Service Management* , 23(3) 311-327

Lee, S.M., Olson, D.L. & Trimi, S., (2012), Co-innovation: Convergenomics, collaboration, and co-creation for organizational values. *Management Decision*, 50(5) 817-831

Magnusson, P.R., Matthing, J. & Kristensson, P., (2003), Managing user involvement in service innovation: Experiments with innovating end users. *Journal of Service Research*, 6(2) 111-124

Martin, R.M., Horne, D.A., (1993), Services innovation: Successful versus unsuccessful firms, *International Journal of Service Industry Management*, 4(1) 49-65

Matthing, J., Sandén, B. & Edvardsson, B., (2004), New service development: Learning from and with customers. *International Journal of Service Industry Management*, 15(5) 479-498

Melton, H.L. & Hartline, M.D., (2010), Customer and frontline employee influence on new service development performance. *Journal of Service Research*, 13(4) 411-425

Mention, A.-L. & Asikainen, A.-L., (2012), Innovation & productivity: Investigating effects of openness in services. *International Journal of Innovation Management*, 16(3) 1240004

Michel, S., Brown, S.W. & Gallan, A.S., (2007), An expanded and strategic view of discontinuous innovations: deploying a service-dominant logic. *Journal of the Academy of Marketing Science*, 36(1) 54-66

Miles, M.B. & Huberman, A.M., (1994), *Qualitative data analysis: An expanded sourcebook*. Sage Publications, Incorporated

Da Mota Pedrosa, A., (2012), Customer integration during innovation development : An service industry. *Creativity and Innovation Management*, 21(3) 263-276

Neyer, A.-K., Bullinger, A.C. & Moeslein, K.M., (2009), Integrating inside and outside innovators: a sociotechnical systems perspective. *R&D Management*, 39(4) 410–419

Nicolajsen, H.W. & Scupola, A., (2011), Investigating issues and challenges for customer involvement in business services innovation. *Journal of Business & Industrial Marketing*, 26(5) 368-376

Perks, H., Gruber, T. & Edvardsson, B., (2012), Co-creation in radical service innovation: A systematic analysis of microlevel processes. *Journal of Product Innovation Management*, 29(6) 935-951

Perks, H. & Riihela, N., (2004), An exploration of inter-functional integration in the new service development process. *The Service Industries Journal*, 24(6) 37-63

Prahalad, C.K. & Ramaswamy, V., (2004), Co-creation experiences: The next practice in value creation. *Journal of Interactive Marketing*, 18(3) 5-14

Ramaswamy, V. & Gouillart, F.J., (2010), *The Power of Co-Creation: Build It with Them to Boost Growth, Productivity, and Profits*. Free Press

Rubalcaba, L., Michel, S., Sundbo, J., Brown, S.W., Reynoso, J., (2012), Shaping, organizing, and rethinking service innovation : A multidimensional framework. *Journal of Service Management*, 23(5) 696-715

Schilling, A. & Werr, A., (2009), Managing and organizing for innovation in service firms: A literature review with annotated bibliography. VINNOVA Report VR 2009:06, VINNOVA, Case No: 2008-02234

Schleimer, S.C. & Shulman, A.D., (2011), When intra-firm and inter-firm collaborations co-occur: Comparing their impact across new services versus new product innovations. *International Journal of Innovation Management*, 15(05) 869-898

Schulteß, P., Wegener, S., Neus, A., Satzger, G., (2010), Innovating for and with your service customers: An assessment of the current practice of collaborative service innovation in Germany. *Procedia - Social and Behavioral Sciences*, COINs2009: Collaborative Innovation Networks Conference, 2(4) 6503-6515

Skiba, F. & Herstatt, C., (2012), Users as sources of radical service innovation, in Melkas H. & Harmaakorpi V. (Eds). *Practice-Based Innovation: Insights, Applications and Policy Implications*. Berlin, Heidelberg: Springer, 233-253

Smith, A.M. & Fischbacher, M., (2005), New service development: A stakeholder perspective. *European Journal of Marketing*, 39(9/10) 1025-1048

Vargo, S.L. & Lusch, R.F., (2004), Evolving to a new dominant logic for marketing. *Journal of Marketing*, 68(1) 1-17

Weber, M., 2008. Developing what customers really need: Involving customers in innovations. (2008), 4th IEEE International Conference on Management of Innovation and Technology, 777-782

## **PERSONALITY TRAITS OF CHIEF EXECUTIVE OFFICERS IN SERVICE FIRM**

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Recently, attention paid to company leadership has risen considerably due to the notion that managers play significant roles in a companies' success. Chief Executive Officers (CEOs), not only as the spearhead of the company but as role models, are the critical individuals who are held responsible for corporate success. It is their obligation to communicate essential business objectives, manage the corporate culture, connect to shareholders and preserve a company's reputation. Therefore, the personality of a CEO plays a vital role in determining their and the company's success.

In our study, we propose that there exists a specific set of personality traits held by successful CEOs. We analysed the personalities of the top 30 German CEOs as examples of highly successful managers, including whether CEOs of service firms differ from those of manufacturing firms. The personalities were analysed through judgments at zero acquaintances (Borkenau and Liebler, 1992; Ambady, Hallahan and Rosenthal, 1995). In order to find a "success pattern", we included judgments by test subjects who were to evaluate an anonymous profile of each manager. Data for establishing the profiles was collected through online sources, such as interviews, newspaper articles, peer reviews, and personal quotes. Each participant was additionally required to fill out a self-evaluation in order to control for HALO effects. After completing the self-evaluation, participants were asked to assess two randomly selected profiles. The Big Five model of personality traits (NEO-FFI) was used for the self-evaluation as well as the manager assessments. Our sample included 140 subjects, resulting in 240 evaluations overall.

For the service sector, eleven personality traits pulled from numerous industries comprised the characteristics of a service firm CEO. Within the NEO-FFI dimensions and its scale between zero and four, these top-managers scored low in Neuroticism (1,04), on average in Extraversion (2,19), Openness (2,24) and Agreeableness (1,85), and high in Conscientiousness (3,15). In summary, service sector CEOs are slightly more emotionally stable and extraverted, and score slightly higher in openness and agreeableness. In contrast to CEOs of manufacturing firms, CEOs from service firms are more creative and regarded as team players. Additionally, the findings also show strong differences to the overall population of Germany, implying greater selectivity in the process of becoming a top-manager. With this study, we are able to (1) show there is a relative homogeneity among successful CEO personalities; (2) services CEOs differ to some extent from CEOs of manufacturing firms.

Future research shall analyse the effects of CEO personalities on the overall company success as well as employee and investor satisfaction. Specifically, research will address in greater detail how personalities of successful managers differ from those less successful and yield practical implications for the selection managers. The results will provide a set of personality traits that can be employed in the selection of managers.

# POSITIVE EMOTIONS IN THE EXTENDED SERVICE EXPERIENCE

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## INTRODUCTION

Research has shown that the full customer experience emerges over a time period that extends outside a particular service encounter. However, it has not addressed the relationship between the extended service experience, ease of interaction with the service provider, and ease of use of the service outcome. This paper investigates the effect of ease of interaction and ease of use on the extended customer experience, incorporating positive emotions before, during and after the service encounter.

## THE EXTENDED SERVICE EXPERIENCE

There have been several different ways to delimit the scope of the customer experience. Some researchers have chosen a wide scope, seeing the customer experience as something that emerges and is formed over a long-term set of company interactions (e.g. Moseley 2007, Payne, et al. 2009). In a similar vein, Mayer and Schwager (2007) define the customer experience as the internal and subjective response customers have to any direct or indirect contact with a company.

Arnould and Price (1993) suggested viewing the service experience as a three-stage process that incorporates events before, during and after a particular service encounter. This perspective has also been argued for by Heinonen et al. (2010), emphasizing the service company's limited line of visibility and that value creation also occurs in the activities and experiences that happen beyond the direct encounters between customer and service provider.

## EASE OF BUYING

The ease of buying construct is drawing on the concept of transaction convenience put forward by Berry, Seiders, and Grewal (2002). Transaction convenience refers to the consumers' perceptions of time and effort to complete an exchange in order to acquire the right to use a service. Besides, according to Grönroos (2008) service providers should support the customers' creation of value. Thus, ease of buying can be considered as a fundamental support of the value creation.

## EASE OF USE

The notion of ease of use is central to the literature on the technology acceptance model (TAM) introduced by Davis (1989) and followed by many others. This paper argues that ease of use can be a fundamental tenet of value in use. Moreover, some scholars have argued that in the short run value in exchange can exist without value in use (Grönroos 2008). On the other hand, in the long run value in exchange can only exist if value in use can be created (Grönroos 2008; Vargo and Lusch 2006).

## EMOTIONS IN SERVICE

Research has shown that positive emotions correlate with customer satisfaction within a service encounter (Liljander and Strandvik 1997, Söderlund and Rosengren 2004). This in line with the phenomenological characterization of service experience, which focuses on the customer's subjective interpretations of a situation (Helkkula 2011), and can be viewed in light of the concept of intrinsic, hedonic value: According to Holbrook (2006) hedonic value consists of "the pleasure in consumption experiences appreciated for their own sake and ends in themselves" (Holbrook 2006, p. 716). Thus, customer's experiences of value go hand in hand with various types of emotional experiences. In fact, positive emotions that are the result of a service interaction or usage situation can be seen as signifying the emergence of hedonic value for the customer.

## METHOD

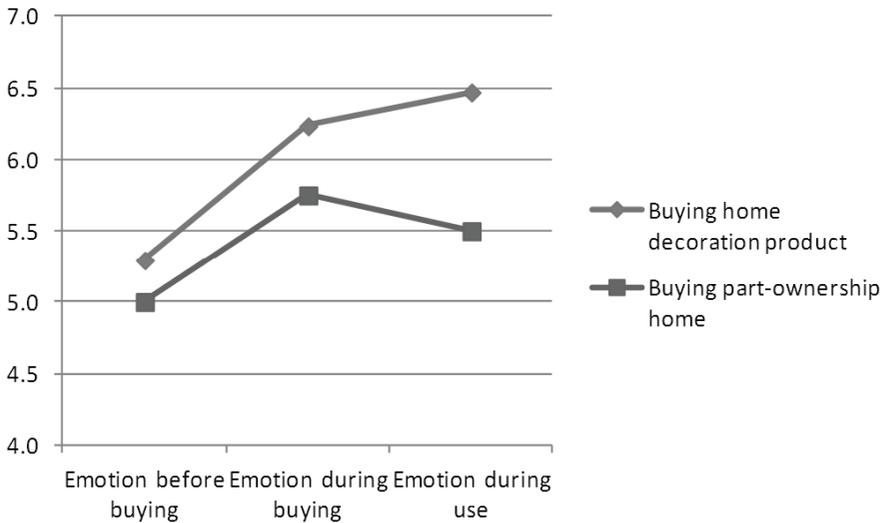
Two surveys were conducted: The first one of 871 customers of an apartment agency, the other of 6629 customers of a home decoration store. Respondents were asked to consider their positive emotions before and during interaction with the service provider in connection with a particular purchase. They were also asked to consider their positive emotions when they started to use the purchased object. The survey also measured the perceived ease of interaction with the provider and ease of use of the object. To measure positive emotions, the study used Laros and Steenkamp's (2005) conceptualization of positive affect, choosing to focus on pleasure, enthusiasm and joy.

## ANALYSIS

Analysis of the two cases shows that perceived ease of interaction and ease of use have a positive effect on emotions in their respective stages of the extended service experience. In addition, the results reveal that positive emotions from the previous stage influence the service experience during the next stage.

More interestingly, the two cases displayed several differences. Figure 1 shows how in the home buying case, positive emotions peaked during the interaction when the purchase was made, while for home decoration, positive emotions peaked when the purchased object was taken into use. This was also reflected in the effects of ease of interaction and ease of use on positive emotions: In the home-buying case ease of interaction with the provider had a stronger effect on positive emotions than in the home decoration case. The opposite is true for the effects of ease of use, which had a stronger effect on positive emotions in the home decoration case than in the home-buying case.

Figure 1: Emotions in the two cases



These results imply that different types of services have different “peaks” in the service usage process in terms of emotional importance for the customer. When buying a home, the emotionally most significant event is signing the deal. When buying home decoration products, on the other hand, the most significant event is when the products are taken into use. Service providers should be aware of the emotionally most significant phases of the service process, so that they can be given special attention. Service providers should also recognize the long-lasting but fading effect of positive emotions in the various stages of extended service encounter. Given that positive emotions fade when the customers no longer have regular interactions with the service provider, there is an opportunity to develop new services for more regular interactions that support use.

Keywords: Service experience; customer emotions; ease of interaction; ease of use

## REFERENCES

Arnould, E.J., and Price, L.L. (1993) River Magic: Extraordinary Experience and the Extended Service Encounter, *Journal of Consumer Research*, Vol. 20, June 1993, pp. 24–45.

Berry, L.L., Seiders, K., and Grewal, D. (2002) Understanding Service Convenience, *Journal of Marketing*, Vol. 66, July 2002, pp. 1–17.

Davis, F.D. (1989) Perceived usefulness, perceived ease of use and user acceptance of information technology, *MIS Quarterly*, 13(3), pp. 319–339.

Grönroos, C. (2008) Service logic revisited: who creates value? And who co-creates, *European Business Review*, Vol. 20, No. 4, pp. 298–314.

Heinonen, K., Strandvik, T., Mickelsson, K.-J., Edvardsson, B.,

- Sundström, E., and Andersson, P. (2010) A customer-dominant logic of service, *Journal of Service Management*, Vol. 21, No. 4, pp. 531–548.
- Helkkula, A. (2011) Characterising the Concept of Service Experience, *Journal of Service Management*, vol. 22, no. 3, pp. 367–389
- Holbrook M.B. (2006) Consumption Experience, Customer Value, and Subjective Personal Introspection: An Illustrative Photographic Essay, *Journal of Business Research*, Vol. 59, Iss. 6, pp. 714–725
- Laros, F.J., and Steenkamp, J.-B. (2005) Emotions in consumer behavior: a hierarchical approach, *Journal of Business Research*, Vol. 58, No. 10, pp. 1437– 1445
- Liljander, V., and Strandvik, T. (1997) Emotions in Service Satisfaction, *International Journal of Service Industry Management*, Vol. 8 No. 2, 1997, pp. 148–169.
- Meyer, C., and Schwager, A. (2007), Understanding Customer Experience, *Harvard Business Review*, February, pp. 117–26.
- Moseley, R.W. (2007) Customer Experience, Organizational Culture and the Employer Brand, *Journal of Brand Management*, Vol. 15, No. 2, pp.123-134
- Payne, A. F., Storbacka, K., Frow, P., and Knox, S. (2009) Co-creating brands: Diagnosing and designing the relationship experience, *Journal of Business Research*, Vol. 62, pp. 379–389.
- Vargo, S. L., and Lusch, R. F. (2006) Service-Dominant Logic: What It Is, What It Is Not, What It Might Be. In *The Service-Dominant Logic of Marketing: Dialog, Debate and Directions*, Lusch, R. F. and Vargo, S. L. eds. Armonk, NY: M.E Sharpe, Inc., pp. 43–56.

## **Pro bono Giving Logics: Duty, Delight and Dark Side**

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### **ABSTRACT**

Each year millions of individuals around the globe volunteer their time and talents to non-profit organizations. Pro bono work – professional practice conducted by individuals for the public good - contributes over \$15 billion annually to the U.S. economy alone (Volunteering in America 2008). Traditionally, there has been a long history of pro bono giving among individual professionals, especially in law and medicine wherein professional conduct is governed by espoused values that promote the interests of others and provide access to professional services, advocacy and representation for those who could otherwise not afford them (Fagelson 1999). By far the largest sector to benefit from pro bono work is the third sector, comprising non-profits and charities. However, many professionals appear torn between conflicting goals with respect to pro bono work; although individual professionals understand its immense value to the recipients, their firm's reputation, and relationship building, there is pressure to maximize billable hours and efficiency. Further, many professionals themselves feel their work is undervalued, sometimes even unappreciated, and taken for granted. All too often volunteers are assigned to activities that do not fully capitalize on their individual skills and talents. Consequently, pro bono work runs the real risk of being abandoned by many professionals. Such action would put at risk the third sector's sustainability, negatively impacting the wellbeing of many.

Although giving behavior has been researched in consumer behavior this paper addresses important and heretofore unanswered questions concerning pro bono gifting. Namely, what drives professionals to engage in this gifting behavior? What logics are employed? and what pro bono gifting styles are evidenced? What lessons can be learnt that would encourage individual professionals to continue this important work to keep the magic of pro bono giving alive?

Key themes from 35 depth interviews providing sufficient diversity across the professions including doctors, attorneys, accountants, financial advisors, dentists, investment brokers, property valuers and management consultants are discussed. Depth interviews provide an effective means of obtaining rich insights into the phenomenon of interest as they provide detailed contextual information that cannot be obtained from surveys (Gwinner, Gremler, and Bitner 1998). Interviews were conducted until information redundancy was achieved (Lincoln and Guba 1985). Following

accepted practice informants were asked to tell their story in their own words. The interviewer first asked the informants to talk about how they became involved in pro bono work. Following established procedures, deeper questions asked about their experiences and typically generated considerable discussion as to their thoughts, their views of their motivation, specific activities, which in some cases was gently probed (Lincoln and Guba 1985; Kvale 2007). Discussions flowed like a conversation. The interviews ranged from 50 minutes to 90 minutes. Interviews were transcribed.

By studying this important but potentially endangered form of gifting by individual professionals whereby tensions between the market economy and moral economy are variously resolved, this paper realizes three theoretical goals. First, it theorizes the characteristics of a formerly unarticulated form of gifting, and distinguishes it from individual to individual close consumer gifting, sponsorship, and volunteering. Second, this paper explores the different logics of pro bono gifting. Third and finally, a typology of pro bono gifting styles is presented and a framework provided to assist firms better align their pro bono work styles with charities and non profits for mutual benefit. Important implications for theory, as well as for service management, are provided.

Topics: Not-for-profit and government service; Professional service firms,

Well-being

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# PROCUREMENT OF CLOUD SERVICES: SEVEN PRINCIPLES TO SUCCESS

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## ABSTRACT

This research investigates the new phenomenon of cloud services against the background of current research in the domain of organizational procurement. Utilization of standardised IT services provided and delivered via the internet as a cloud service requires organizations to adapt their purchasing processes. In this paper, we analyse the challenges associated with buying cloud services and develop seven design principles an organization's procurement function should adhere to in order to mitigate those challenges.

## INTRODUCTION

The progressive adoption of cloud computing in the business-to-business market provides evidence for its growing acceptance in practice. By the end of 2010 the worldwide cloud services market was worth \$68.3 billion (Pring et al. 2010). According to the market researchers of Gartner, the market will grow to be worth \$148.8 billion in 2014 (Pring et al. 2010). Cloud computing is a special type of IT outsourcing which substantially changes the way IT services are delivered to the customer. IT outsourcing is defined as “[...] handing over to one or more third party vendors (i.e., legally independent) the provision of some or all of an organization's IT functions such as, e.g., IT assets, activities, people, processes, or services for a contractually agreed monetary fee and period of time” (Leimeister 2010). In cloud computing IT resources needed to provide an IT service aren't any longer physically located at the client's or the provider's site. Instead, cloud computing heralds the shift to an asset free IT provisioning model where highly scalable hardware, software and data resources are made available over the internet (Thomas and Redmond 2009). To date the majority of research is dedicated to the technical aspects of cloud computing (Hoberg et al. 2012a). Thus, research regarding the business perspective is needed. Cloud computing poses some major challenges to organizations which seek to procure cloud services. They are confronted with an immature market, a technically complex innovation, and legal uncertainties. Prospective customers should adapt their buying-centres to these challenges in order to avoid the pitfalls associated with this new IT delivery model.

This paper develops principles which aid prospective cloud service customers in designing their procurement function. We begin by reviewing the established research background on procurement, its goals and its specifics in an organizational setting. Next, we analyse the corresponding specifics of the cloud service delivery model. Combining both research streams, we identify the challenges associated with this new delivery model and present seven principles for the successful procurement of

cloud services. Concluding, we discuss the findings and their implications.

## BACKGROUND

To explain the role of procurement and the purchasing function, researchers regard the value chain concept developed by Porter (1980) as useful (Van Weele 2005). Following Porter's value chain as point of departure, all stakeholders belonging to the same value chain are challenged to improve the company's value proposition to its customers (Porter and Millar 1985). Procurement thereby relates to the function of purchasing inputs for primary activities such as raw materials as well as for support activities such as information technology, used in and by the firm's value chain. The buying process of organizations is different from that of consumers, because organizations or institutions need the purchased product or service to feed, support and maintain their primary and supporting processes (Van Weele 2005).

This results in a professionalized purchasing, integrating experienced and well-informed buyers. Usually multiple individuals are involved in organizational buying decisions and they are likely to change from one purchase situation to the next (Webster and Wind 1972). The resulting unit of people making the decision is long been known as decision making unit or "buying centre", referring to the group of people which participates in the purchasing decision and which shares common goals as well as the risks associated with the decision (Webster and Wind 1972, Robinson et al. 1967). This buying centre forms an informal, cross-departmental decision making unit in which the primary goal is the acquisition, mediation and processing of relevant information (Lau et al. 1999, Howard and Doyle 2006).

The structure of the buying centre is influenced by multiple aspects, such as environmental uncertainty, the decision phase, characteristics of the buying firm, or the type of product or service being bought (Spekman and Stern 1979, Lilien and Wong 1984, Johnston and Bonoma 1981). Subsuming previous research results, Osmonbekov et al. (2002) condense the resulting key structural aspects of buying centres being their size (number of individual participants), the involved hierarchical levels (managerial authority levels), involved functional levels (specialization by work area), and participation (involvement in procurement by members). Previous research on organizational buying identified multiple effects on the buying centre structure, and on organizational purchasing in further detail. For instance Bello et al. (1993) report an impact of the primary area of work or job function of an individual on the involvement in procurement. Choffray et al. (1978) report varying involvement of individuals with a different hierarchical background, whereby McQuiston et al. (1991) report a relation between the personal consequences a buying centre member has at stake and its involvement. These findings emphasize the importance of adapting procurement processes and the buying centre for different kinds of purchasing decisions, in order to ensure most favourable conditions for the buying organization. This is especially true for the procurement of cloud services because, compared to traditional IT outsourcing, service and provider selection is undergoing a major structural change (Hoberg et

al. 2012b, Wollersheim and Krcmar 2013).

Services in general can be defined as “a process consisting of a series of more or less intangible activities [...], which are provided as solutions to customer problems” (Grönroos 2007). Looking at IT services in particular, Rudolph (2009) points out the required combination of humans, technology and tasks during the service execution, which is to be recognized in IT services purchasing. Services of this type provide solutions spreading from IT infrastructure like data storage to email or word processing software.

Traditional IT outsourcing is a supplier business. In general, IT outsourcing providers seek to engage in sustainable long-term business relationships providing their clients with customized IT services. Clients rely on the Request for Information (RFI), the Request for Proposal (RFP) as well as the due diligence phase to receive required information directly from potential service providers. The customer firm evaluates potential candidates and, depending on the outsourcing strategy, selects one or more providers he wants to engage with into the subsequent negotiation phase (Lee 2008).

However, triggered by the progressive adoption of the cloud computing paradigm the traditional value chain in the IT outsourcing industry is breaking up and gets replaced by a complex value network (Leimeister et al. 2010). The single-provider, one-stop provision is replaced by a network of different service providers, offering a wide range of services (Böhm et al. 2011). Cloud computing is a system business where IT services are highly standardized and created for an anonymous market, rather than being customer specific. The service provider usually offers its services via market platforms like e.g. Cloud Commons or Google Apps Market as a self-service. One of the major distinctions to traditional provisioning models is, cloud services being provided as a self-service. Clients who want to obtain IT services as cloud service have to gather all relevant information for decision making their selves online. In the emerging market for cloud services this is quite a difficult task, as potential buyers are confronted with both a vast amount of relatively unknown small and medium sized service providers and a new service delivery concept which to date suffers from numerous legal uncertainties. In addition, cloud computing aims at a radical transformation of a customer organization’s in-house IT, requires close collaboration between business units, and demands profound changes to the qualification profile of the employees managing the portfolio of IT services which are acquired from outside sources.

As known from literature on organizational purchasing (Johnston and Bonoma 1981, Osmonbekov et al. 2002), organizations have to adapt their internal processes in order to mitigate the risks associated with the procurement of products or services which are new to the organization.

We analysed current research on organizational procurement, and literature on buying-centres in particular, with regard to the question of how to design a buying-centre which is able to cope with the challenges elaborated above. We identified the seven core principles we describe next (see Table 1). Customer organizations which seek to obtain IT services from an external cloud provider should implement these principles in order to leverage the benefits associated with this new IT deployment model.

## SEVEN CORE PRINCIPLES

**Knowledge management:** Leverage the knowledge of cloud experts. Following Edvardsson (1992), services are difficult to explain, even for its provider, and therefore for the customer difficult to assess. The procurement of a cloud service places a considerable demand on both the technical as well as the legal expertise available at the customer's organization. As cloud providers typically pool their resources (e.g. network, storage, processing power) to serve multiple customers and provide their services over the internet, cloud computing entails significant security challenges (Owens 2010). Sharing common resources can cause various problems. Customers "could face regulatory compliance risks, if they transfer and process sensitive data which are exposed to legal regulations" (Martens and Teuteberg 2011). In addition, Jansen (2011) reports that in 2009 "the FBI raided computing centres in Texas and seized hundreds of servers, when investigating fraud allegations against a handful of companies that operated out of the centres". Incidents like the one described can damage the customer's market reputation permanently. Accordingly, we deduce that customers need to involve specialised experts which are familiar with the pitfalls and idiosyncrasies of cloud computing from the IT group and the legal department early on in the procurement process in order to be able to make an informed procurement decision.

**Monitoring:** Continuously monitor the cloud market. As described above, in the cloud market customers are confronted with a vast amount of relatively unknown small and medium sized service providers. McQuiston (1989) refers to this as a complex buying situation. The cloud market is still immature and characterized by high uncertainty (KPMG 2012). In the traditional IT services market a few providers account for the majority of the total market share (for example, in Germany six providers account for over 86% of the total market share (Lünendonk 2012)). A similar trend towards market consolidation can be expected for the cloud services market. Beyond that there is a plethora of cloud computing arrangements, options and services customers may choose from. As a consequence, the procurement decision is subject to considerable uncertainties. This leads customers menace to easily lose track when searching for the right service. We conclude that customers should seek access to relevant market information either through implementing an organizational unit which monitors the cloud market closely or by mandating external market research.

**Consolidation:** Maintain a shortlist of potential cloud providers. Triggered by the progressive adoption of the cloud computing paradigm in the IT service market the IT outsourcing industry enters into a state of flux. From a customer's perspective, one side of the coin is that once well-established business models make way for new, innovative ones which are geared towards customers' increasing demand for customized IT services being provided in a flexible, cost-effective and efficient manner (Böhm et al. 2011). The other side of the coin is that those business models still have to prove their viability. Simultaneously, the lack of technology related standards in the cloud market renders the change of providers difficult. In order to be able to react to this potential hazard we suggest that customers

should maintain a shortlist of compatible cloud providers customers might switch to in case their current provider goes out of business.

**Participation and cooperation:** Ensure participation and cooperation of current and potential future users. The question whether an organization can leverage the benefits of cloud computing heavily depends on the participation and cooperation of its business units in the cloud service procurement process. The main objective of this cooperation is to bring the demands of the different potential users in the customer's organization into balance. This generates reuse which in turn decreases redundancies in the customer's cloud service portfolio. We propose, customers need to consider and align both requirements of current as well as requirements of potential future users in the organization.

**Conflict resolution:** Manage conflicts between users. The required coordination between current and future users' demands implies conflict potential, because business units worry about a loss of control due to the incorporation of other service users into the procurement process. Consequently, we propose that customers should actively manage conflicts which potentially arise out of diverging interests of current and potential future users.

**Centralisation:** Collect purchase requisitions centrally. Information and communication technologies are the backbone of today's organizations. To align a firm's IT capabilities with current and future demands of a firm's business, an IT strategy needs to be developed and implemented. Central element of this strategy is the enterprise IT architecture which is designed to lead IT activities. However, cloud computing makes it easier for business departments to undertake IT investments without the knowledge of the IT department. The reason is that consumers can unilaterally provision cloud services without requiring human interaction with the service's provider (Mell and Grance 2010). Most of the services can simply be paid by credit card. In order to prevent malpractice that violates IT architectural policies, customers should implement incentives for reporting requisitions regarding the procurement of new cloud services to a central unit which then coordinates activities.

**Tap peers' experiences:** Leverage cloud experience of peers. Especially in rent or service contract arrangements, and in cloud computing in particular, it is common practice to provide customers contractual promises of certain levels of reliability, so called Service Level Agreements (SLAs) (Hilley 2009, BITKOM 2010). Such promises "often include monetary compensation if the level of service provided is below the contractually specified level" (Hilley 2009). In the cloud market, these compensations frequently cover customers' financial losses not in the least. Accordingly, customers need independent assessments of the provider's reliability especially regarding service availability, service set-up time, and performance characteristics (e.g. computing performance, connection bandwidth). We propose that customers should consult peer organizations regarding their experiences with the service and its provider.

Table 1: Core design principles

#	Design Principle	Description
1	Leverage the knowledge of cloud experts	Customers need co-opt cloud experts especially from the legal department and the IT department in the procurement process.
2	Continuously monitor the cloud market	Customers should seek access to relevant market information either through implementing an organizational unit which monitors the cloud market closely or by mandating external market research.
3	Maintain a shortlist of potential cloud providers	Customers should maintain a short-list of cloud providers which meet expected quality criteria.
4	Ensure participation of current and potential future users	When procuring a cloud service, customers need to consider and align both requirements of current as well as requirements of potential future users.
5	Manage conflicts between users	Actively manage conflicts which potentially arise out of diverging interests of the service's users.
6	Collect purchase requisitions centrally	Customers should collect requisitions regarding the procurement of new cloud services centrally.
7	Leverage cloud experience of peers	Customers should consult peer organizations regarding their experiences.

## IMPLICATIONS AND CONCLUSION

This paper investigates the characteristics of cloud services and connects them to the body of research on organizational purchasing. We compared cloud computing to traditional forms of IT outsourcing and identified the challenges associated with this new IT deployment model. Customers who want to source IT services via the cloud should verify that their procurement process is prepared for cloud services. We conceptualized seven design principles which are meant to give guidance to organizations on how to adapt their procurement function in order to leverage the benefits of cloud services.

The authors recommend researchers to use the principles as a starting point to further investigate the domain of IT procurement by using qualitative research methods. Those methods are expected to provide deeper insights into the domain of information technology procurement (Howard and Doyle 2006).

The authors hope that practitioners find the principles useful when preparing to buy cloud services.

## REFERENCES

Bello, D. C. and Lohtia, R. (1993) 'Improving trade show effectiveness by analyzing attendees', *Industrial Marketing Management*, 22(4), 311-318.

BITKOM (2010) *Cloud Computing – Was Entscheider wissen müssen*, BITKOM, Berlin, Germany.

- Böhm, M., Leimeister, S., Riedl, C. and Krcmar, H. (2011) 'Cloud Computing - Outsourcing 2.0 or a new Business Model for IT Provisioning?' in Keuper, F., Oecking, C. and Degenhardt, A., eds., *Application Management: Challenges - Service Creation - Strategies*, Gabler.
- Choffray, J.-m. and Lilien, G. L. (1978) 'ASSESSING RESPONSE TO INDUSTRIAL MARKETING STRATEGY', *Journal of Marketing*, 42(2), 20-31.
- Edvardsson, B. (1992) 'Service Breakdowns: A Study of Critical Incidents in an Airline', *International Journal of Service Industry Management*, 3(4), 17 - 29.
- Grönroos, C. (2007) *Service Management and Marketing: Customer Management in Service Competition*, 3 ed., John Wiley & Sons, Chichester, UK.
- Hilley, D. (2009) *Cloud computing: A taxonomy of platform and infrastructure-level offerings*, Georgia Institute of Technology, USA.
- Hoberg, P., Wollersheim, J. and Krcmar, H. (2012a) 'The Business Perspective on Cloud Computing - A Literature Review of Research on Cloud Computing', in 18th Americas Conference on Information Systems (AMCIS), Seattle, USA.
- Hoberg, P., Wollersheim, J. and Krcmar, H. (2012b) 'Service Descriptions for Cloud Services - The Customer's Perspective', in ConLife Academic Conference, Cologne, Germany.
- Howard, P. and Doyle, D. (2006) 'An examination of buying centres in Irish biotechnology companies and its marketing implications', *Journal of Business & Industrial Marketing*, 21(5), 266-280.
- Jansen, W. A. (2011) 'Cloud Hooks: Security and Privacy Issues in Cloud Computing', in 44th Hawaii International Conference on System Sciences (HICSS), Hawaii, USA.
- Johnston, W. J. and Bonoma, T. V. (1981) 'THE BUYING CENTER: STRUCTURE AND INTERACTION PATTERNS', *Journal of Marketing*, 45(3), 143-156.
- KPMG (2012) *Cloud Monitor 2012*, KPMG & BITKOM, Düsseldorf, Germany.
- Lau, G.-T., Goh, M. and Phua, S. L. (1999) 'Purchase-Related Factors and Buying Center Structure: An Empirical Assessment', *Industrial Marketing Management*, 28(6), 573-587.
- Lee, J.-N. (2008) 'Exploring the Vendor's Process Model in Information Technology Outsourcing', *Communications of AIS*, 22, 569-589.

- Leimeister, S. (2010) *IT Outsourcing Governance: Client Types and Their Management Strategies*, Gabler, Wiesbaden, Germany.
- Leimeister, S., Riedl, C., Böhm, M. and Krcmar, H. (2010) 'The business perspective of cloud computing: Actors, roles, and value networks', in 18th European Conference on Information Systems (ECIS), Pretoria, South Africa.
- Lilien, G. L. and Wong, M. A. (1984) 'An Exploratory Investigation of the Structure of the Buying Center in the Metalworking Industry', *Journal of Marketing Research (JMR)*, 21(1), 1-11.
- Lünendonk (2012) *Lünendonk-Liste 2012: Führende IT-Service-Unternehmen in Deutschland 2011*, Kaufbeuren, Germany: Lünendonk GmbH.
- Martens, B. and Teuteberg, F. (2011) 'Risk and compliance management for cloud computing services: Designing a reference model', in 17th Americas Conference on Information Systems (AMCIS), Detroit, USA.
- McQuiston, D. H. (1989) 'Novelty, Complexity, and Importance as Causal Determinants of Industrial Buyer Behavior', *Journal of Marketing*, 53(2), 66-79.
- McQuiston, D. H. and Dickson, P. R. (1991) 'The effect of perceived personal consequences on participation and influence in organizational buying', *Journal of Business Research*, 23(2), 159-177.
- Mell, P. and Grance, T. (2010) 'The NIST Definition of Cloud Computing', *Communications of the ACM*, 53(6), 50-50.
- Osmonbekov, T., Bello, D. C. and Gilliland, D. I. (2002) 'Adoption of electronic commerce tools in business procurement: enhanced buying center structure and processes', *Journal of Business & Industrial Marketing*, 17(2/3), 151-166.
- Owens, D. (2010) 'Securing Elasticity in the Cloud', *Communications of the ACM*, 53(6), 46-51.
- Porter, M. A. (1980) *Competitive Strategy, Techniques for Analyzing Industries and Competitors*, The Free Press, New York, USA.
- Porter, M. E. and Millar, V. E. (1985) 'How information gives you competitive advantage', *Harvard Business Review*, 63(4), 149-160.
- Pring, B., Brown, R. H., Leong, L., Couture, A. W., Biscotti, F., Lheureux, B. J., Frank, A., Roster, J., Cournoyer, S. and Liu, V. K. (2010) *Forecast: Public cloud services, worldwide and regions, industry sectors, 2009-2014*, Gartner.
- Robinson, P. J., Faris, C. W., Wind, Y. and Marketing Science, I. (1967) *Industrial buying and creative marketing*, Allyn & Bacon, Boston, USA.

Rudolph, S. (2009) Servicebasierte Planung und Steuerung der IT-Infrastruktur im Mittelstand: ein Modellansatz zur Struktur der IT-Leistungserbringung, Gabler, Wiesbaden, Germany.

Spekman, R. E. and Stern, L. W. (1979) 'ENVIRONMENTAL UNCERTAINTY AND BUYING GROUP STRUCTURE: AN EMPIRICAL INVESTIGATION', *Journal of Marketing*, 43(2), 54-64.

Thomas, M. and Redmond, R. (2009) 'From the client-server architecture to the information service architecture', in 15th Americas Conference on Information Systems (AMCIS), San Francisco, USA.

Van Weele, A. J. (2005) *Purchasing and Supply Chain Management: Analysis - Strategy - Planning and Practice*, Thomson Learning, London, UK.

Webster, F. E. and Wind, Y. (1972) *Organizational buying behavior*, Prentice-Hall, Englewood Cliffs, USA.

Wollersheim, J. and Krcmar, H. (2013) 'Purchasing processes for cloud services - An exploratory study of process influencing factors', in 22nd Annual IPSERA Conference, Nantes, France.

# REQUIREMENTS FOR VALUE-BASED PRICING OF E-SERVICES IN THE CONTEXT OF LOGISTICS

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## ABSTRACT

Not just since the rise of cloud computing electronic services have become more and more important. In the past years the research has focussed on commoditization of services and, as a consequence thereof, pricing models of electronic services. Most of the existing pricing models are focussing on technical information and leave the customers out. Since most customers are not able to understand the technical background and hence the pricing they feel overchallenged with such pricing models. This paper discusses an approach that, since it based on the value a customer perceives, can open up new markets for service providers.

## INTRODUCTION

During the past years many enterprise software companies have changed their business model from just licensing their software to offer their software as electronic services with a whole bunch of additional services (Cusumano, 2008). More and more customers are consuming their software over the internet out of a public or private cloud. (BITKOM, 2013)

This change in software deployment bears the challenge of offering the electronic services most profitable with an optimum of customer satisfaction.

The four profit levers are price, variable cost, sales quantity and fixed cost. Raju and Zhang (2010) show that the most important of these four levers is the price. If a company improves the pricing by one per cent the potential increase in profitability is around 10.29 per cent while all the other levers have a potential increase in profitability of 6.52 per cent (cut of one per cent of variable costs), 3.28 per cent (one per cent increase of sales) and 2.45 per cent (cut of one per cent of fixed costs). Therefore this paper discusses the pros and cons of different pricing models.

Another important factor for the success of a pricing model is, whether the price equals the amount the customer is willing to pay for a particular service. If the price is too low some money that could be earned is wasted, if the price is too high some potential customers will not consume this service.

This paper features an approach called value-based pricing that focusses the pricing on the value the customer generates with the consumption of the service. Value-based pricing results in determining the price a specific group of customers is willing to pay based on some value drivers. Furthermore this approach leads to a better understanding of the pricing on the customer's side which results in an increase in customer satisfaction.

This short introduction is followed by an overview of the typical pricing models used for electronic services. This section also provides a short assessment of the introduced pricing models with regard to profitability and usability.

The third part of this paper features the idea of value-based pricing and works out the prerequisites for such a model.

The penultimate section demonstrates the benefits and the necessity of such pricing using the example of the logistics sector followed by a short conclusion.

## PRICING MODELS FOR E-SERVICES

According to (Raju and Zhang, 2010) there are three basic categories of pricing models: cost plus pricing, competition based pricing and consumer based pricing.

Cost plus pricing is a very popular approach since it is very easy to implement because it relies only on information that are readily available. To determine a price a company first has to specify the sales target of the electronic service and then has to figure out the average cost per service instance. The price per service instance is the costs per instance plus a company specific margin. This model ensures that every sold instance of the service is profitable. (Harmon et al., 2009), (Raju and Zhang, 2010)

When a company is setting the price using competition based pricing it checks the prices of the competition and sets the price at almost the same level plus or minus a few per cent. This is a very simple pricing model, even simpler than cost plus pricing, but it can be really dangerous for companies since it can result in price wars if the competition is using competition based pricing too. (Raju and Zhang, 2010)

With consumer based pricing a company tries to identify the price a customer is willing to pay. An example for this category is Amazon EC2 spot instances (Amazon Web Services); the customer sets a maximum price he is willing to pay.

Typical pricing strategies of these traditional pricing models are: (Schwarzbach, 2011), (Harmon et al., 2009)

- Flat rate. The customer is being charged a fixed amount for the service independent of the usage. The most challenging with this strategy is to estimate the average usage of the service to set a price that is still profitable for the service provider.
- Pay per use. The customer is being charged per usage on a transaction basis. If he does not consume the service he is not being charged anything. This strategy is one of the most important strategies in cloud computing. It is often used for infrastructure as a service (IaaS) services.

- User based pricing. The customer is being charged either based on concurrent or total users that are allowed to use the particular service.
- Performance based pricing. The charge depends on the performance of the service, the higher the performance the higher the charge.
- Declining pay per use. Like with pay per use the charge is based on the usage of the service on a transaction basis. This strategy incorporates the possibility of discounts for specific amounts, so if the number of transaction exceeds a threshold the price per transaction will decrease.

All of these strategies are focussing only on costs leaving the customer completely out. Therefore there are some possible consequences:

- The price matches the price the customer is willing to pay.
- The price is higher than the price the customer is willing to pay. The customer will not use this service and the service provider will lose money he could have taken if he had set the price a bit lower, i.e. selling with a smaller margin. Unfortunately the service provider will not even notice.
- The price is lower than the price the customer is willing to pay. This can lead to two possible results. First the customer is consuming the service so the service provider will lose a lot of money. Second the customer can consume a competitor's service since he identifies lower prices with lower quality. The service provider will not notice this waste of money.

Since the first is the most unlikely consequence, cost based pricing models, including competition based pricing, will lead to a waste of money.

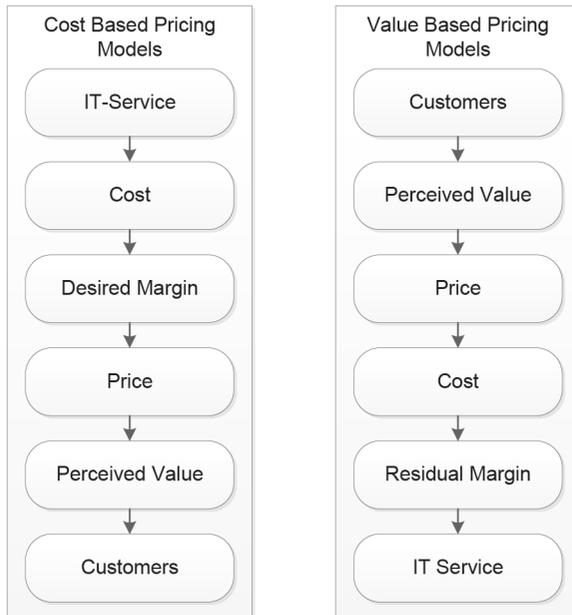
## VALUE-BASED PRICING MODELS

One possible solution for the disadvantages of cost based pricing models is value-based pricing that, to put it simple, sets the price according to the value the consumer will receive from this service.

The value based approach focusses on the customer and his value drivers. The main challenge of value based pricing is to estimate these value requirements and the increase of value the customer will perceive by the consumption of the service.

The main question concerning value based pricing is: How to determine the value the customer perceives? Customer perceived value is defined as the quotient of perceived benefits and perceived sacrifice, where sacrifice are the price of the service (including additional costs e.g. interface development costs). (Pasura and Ryals, 2005)

Figure 1: Cost based pricing models vs. value based pricing models (cf. Harmon et al., 2009)



Since the price is set dependent to the customer's value it is possible that the price is below the costs plus a minimum residual margin. In that case the service can be reverse-engineered to meet the price point and be profitable for the service provider. (Pasura and Ryals, 2005)

Summarizing value based pricing is the inverse to cost based pricing as shown in figure 1.

## PREREQUISITS FOR VALUE-BASED PRICING

To put value based pricing into practice the service provider needs to know how the customer perceives value. As stated in the previous section the perceived value depends on the sacrifice and the benefits the customer perceives, hence it differs for different groups of customers and different market segments.

To understand the trade-off between these sacrifice and benefits it is necessary to identify the most important customer value drivers. (Harmon et al., 2004)

On top level customer value drivers can be divided in two categories:

- Functional value is value that is in relation to functional and non-functional aspects of the service.
- Emotional value and epistemic value are subjective categories that need to

Harmon et al. (2009) enumerates the five main customer value drivers that are necessary for setting prices:

- Economic value reflects the customer's perceptions concerning the cost for the whole lifecycle of the service and is associated with functional value. (Harmon et al., 2009)
- Performance value. Functional aspects of a service and benefits associated with this service result in performance value which is associated with functional value. (Harmon et al., 2009)
- Supplier value. If the service provider has a good reputation and is considered as being credible and trustworthy the perceived supplier value will be higher. A service provider with a strong brand usually has a higher supplier value than the competition. (Harmon et al., 2009)
- Buyer motivation. The emotional and epistemic value based buyer's motivation is crucial for the decision whether or not to consume a service. (Harmon et al., 2009)
- Buying situation. The perception of customer value is context sensitive, i.e. it depends on the current situation of the customer that may either inhibit, facilitate or have no effect on the decision making process. (Harmon et al., 2009)

Buying situation depends on many contextual variables; the most important ones are (Harmon et al., 2009):

- Task definition. The use cases the service addresses.
- Resource capability.
- The time horizon for the decision process and for the duration of service consumption
- Social influences.
- Experience level of the customer since higher experienced customers have stronger service-related attitudes.
- Availability of objective information concerning the services for assessing performance and risks.

Because of all these variables a value based pricing strategy always is market segment specific. Hence the first decision a service provider has to make is the choice of the target market. This decision comprises the identification of the market segments customer value drivers.

Once the price the customer is willing to pay is identified, this information

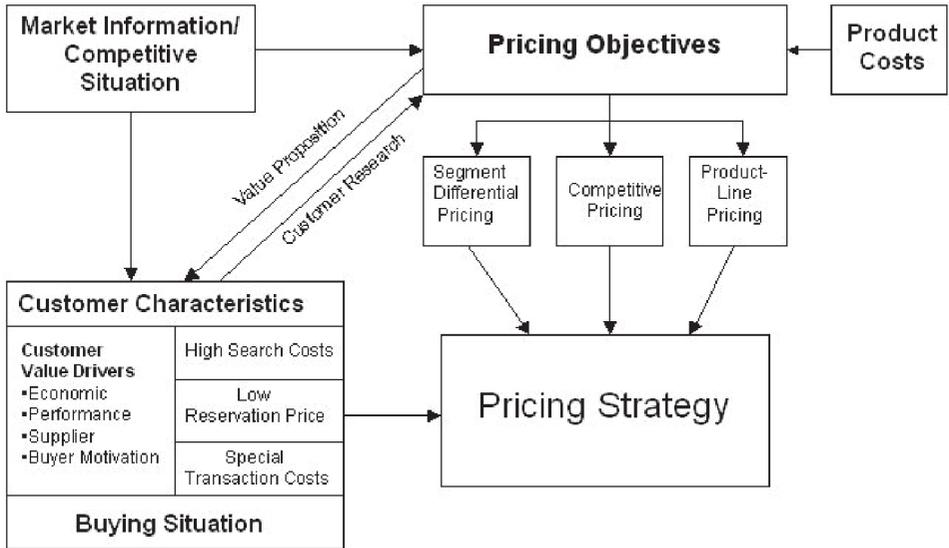
needs to be analysed whether the offer at this price is profitable or not.

If a customer has full knowledge of the service and the competition his maximum price he is willing to pay for this service is called economic value to the customer (EVC) or value-in-use. (Harmon et al., 2004) It is the analogy to reservation price in cost plus pricing. Therefore the EVC can be computed on an objective basis if some estimations are made concerning the different value drivers. Unfortunately an average customer will not have such deep knowledge. Therefore the value a customer perceives with the use of this service can be increased if the service provider is able to demonstrate the creation of customer value that can be achieved by this service. The following example will make this statement more understandable:

A service provider offers a service that scans logistics documents. The scanned documents are being analysed and the information is extracted and put in third party software. The service is charged on per transaction base with a price per scanned document of about 15 cents although the cost-plus based price would be around four to five cents. The last years the secretary of the customer had the task to take every logistics document and put the data manually into this document. This took almost five minutes per document. Although the customer has all these information he does not perceive the value of the service in a way that would convince him to pay 15 cents per document. Therefore the service provider shows the customer a simple calculation. The salary of the secretary is 12 Euro per hour; she will process 12 documents per hour; so the price per processed document is 1 Euro. After showing this calculation to the customer his perceived value increases dramatically.

Harmon et al. (2004) proposes a framework for a customer value based pricing model shown in figure 2.

Figure 2: Framework for a customer value based pricing model (Harmon et al., 2004)



The success of a customer value based pricing strategy is highly dependent on the service provider’s knowledge of the customer, i.e. value drivers, search costs, reservation prices, transaction costs and buying situation. (Harmon et al., 2004) The framework helps with the early-stage analysis by linking service cost estimates to anticipated prices which can be used to decide whether a specific service configuration has a reasonable chance of economic success. The pricing information retrieved generated with this framework can be used to set the starting price of a service or to improve an existing pricing.

**VISION: VALUE-BASED PRICING FOR E-SERVICES IN LOGISTICS**

According to a survey done in 2011 the majority of logistics service providers (LSP) are small and medium enterprises (SME), rarely established with well-structured processes and state-of-the-art supply chain management. This disadvantage of competitiveness in comparison to bigger LSPs turns out to be especially critical for the capability to offer value added services that are increasingly in demand. Additionally many LSP do not use standard software products which results in incompatibility of data formats. To enable those LSPs to work together it is necessary to standardise their data exchange interfaces by providing such functionality. (Arnold et al., 2012)

Most of the smaller LSPs cannot afford the license fees of professional software products; hence the usage of cloud computing with pay per use pricing models can show up a solution. The main problem of cloud computing for logistics is the lack of a pricing model LSPs can understand and easily integrate in his service landscape. (Arnold et al., 2012).

Most of cloud computing pricing models are based on technical transactions e.g. consumed CPU power, used memory, network transfer and used space. Again, a LSP has deep knowledge in logistics but usually almost no knowledge in IT. It is the task of service providers to create and establish pricing models based on transactions a LSP is able to grasp an. (Arnold et al., 2012)

To create and establish such a pricing model the application of the proposed framework to create a value based pricing strategy can make a contribution. As an example a service for customs declaration can be priced on per package or per container basis. The pricing, including the benefits of pay per use, has to be explained to the LSPs. According to the outcome of the mentioned survey and further discussions with LSPs such comprehensible pricing model would lower the barriers for utilizing logistics cloud services. (Arnold et al., 2012)

## CONCLUSION

The first part of the paper gave a brief overview of traditional cost based pricing models like cost plus pricing or competition based pricing followed by a discussion of the pros and cons of those pricing models.

The main focus of the paper is set on the presentation of the idea of involve the customer value in the process of creating a pricing strategy. A discussion of different customer value drivers (objective and subjective ones) is followed by the presentation of the framework for a customer value based pricing model. This framework provides a basis for implementing a customer value based pricing model for electronic services in different market segments.

The final part of this paper introduces such a market segment, the logistics sector, with special focus on SME LSPs. The special challenges of this market sector are discussed briefly and a possible solution is presented.

Nevertheless the research on customer value based pricing is in its early stages of development. The framework itself gives no information on how to measure the different customer value drivers or how to use them in detail. Such information are needed to ease the adoption of value based pricing models for service providers.

Therefore the main challenges in research in the near future are to provide more specific guidance to service providers to implement customer value based pricing strategies with success on a widespread basis.

Also a deeper analysis of the requirements for customer value based pricing is preferable and will be done in the next months to go on step in the direction of a software supported framework for customer value based pricing models for electronic services. Such a software system that supports the service providers with pricing will be the basis for a widespread adoption of electronic services in many economic sectors yet not well developed.

## REFERENCES

- Amazon Web Services, "Amazon EC2 Instance Purchasing Options", available at: <http://aws.amazon.com/en/ec2/purchasing-options/> (accessed 14 April 2013).
- Arnold, U., Oberländer, J. and Schwarzbach, B. (2012), "LOGICAL—Development of Cloud Computing Platforms and Tools for Logistics Hubs and Communities".
- BITKOM (2013), "Umsatz mit Cloud Computing steigt auf fast 8 Milliarden Euro (Presseinfo Cloud)", available at: [http://www.bitkom.org/75316\\_75301.aspx](http://www.bitkom.org/75316_75301.aspx) (accessed 15 April 2013).
- Cusumano, M. (2008), "The Changing Software Business: Moving from Products to Services", *Computer*, Vol. 41 No. 1, pp. 20–27.
- Harmon, R., Demirkan, H., Hefley, B. and Auseklis, N. (2009), "Pricing Strategies for Information Technology Services: A Value-Based Approach" (accessed 14 April 2013).
- Harmon, R., Raffo, D. and Faulk, S. (2004), "Value-Based Pricing For New Software Products: Strategy Insights for Developers", *Innovation Management in the Technology-Driven World*.
- Pasura, A. and Ryals, L. (2005), "Pricing for value in ICT", *J Target Meas Anal Mark*, Vol. 14 No. 1, pp. 47–61.
- Raju, J. and Zhang, Z.J. (2010), *Smart pricing: How Google, Priceline, and leading businesses use pricing innovation for profitability*, 1. ed., 1. print., Wharton School Publ., Upper Saddle River, NJ.
- Schwarzbach, B. (2011), *Konezption und Implementierung eines integrierten Abrechnungssystems für virtualisierte IT-Infrastruktur*, Leipzig.

# RETURN ON TIME: THE CONSTRUCT AND ITS IMPLICATIONS FOR INNOVATIONS

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## INTRODUCTION

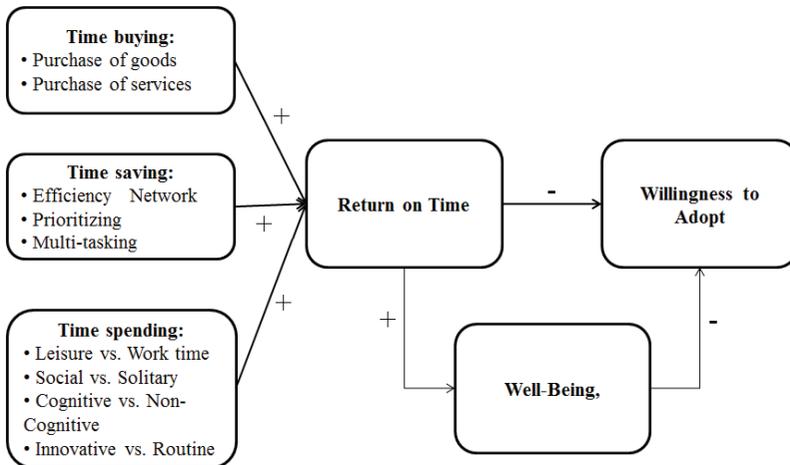
With technological evolution, accelerated innovation pace, general increase in welfare and subsequent hectic lifestyle, optimizing the usage of time is progressively emerging as a powerful driver of individual self-accomplishment and well-being. As a result, today and tomorrow customers increasingly look at time optimization as a criterion for selecting products and services to buy. Thus, better understanding of the link between time optimization and well-being may have important effects on the market success of future innovations.

Our research introduces return on time (ROT), an individual's goal oriented behavior targeted at acquiring and spending time over a set of chosen activities with the purpose of increasing subjective well-being, as a new construct for capturing the characteristics of individual time optimization. ROT results from the combination of three dimensions - time buying, time saving, and time spending. Time buying refers to the purchase of goods or services for substituting the individual in routine tasks (Barry 1979). Time saving refers to the reorganization of owned resources and activities in order to free time for alternative and/or additional activities. Time spending refers to the combination of activities individually selected for filling available time. The optimal combination of the three dimensions maximizes individual ROT and, thus, represents a powerful driver of individual decision-making, achievement of well-being, and ultimately purchase and adoption behaviors.

As a fundamental element of individual and social activities, time has been studied by several academic fields, e.g. economics (references), psychology (references), sociology (references), anthropology (references), and communication (references). By conceptualizing and operationalizing ROT as a multidimensional construct (buying, saving, and spending time), this paper advances previous research. First, by looking at ROT as a combination of three interconnected dimensions, our research provides a more thorough explanation of a complex phenomenon like time management. Previous research addressed ROT dimensions separately. For example, research on time allocation concentrated on efficiency as the main decision-driver (Barry, 2002; Feldman and Hornik, 1981). By so doing they disregarded more hedonistic motives like self-fulfillment. Second, we provide a more articulated understanding of time spending,

which previous research has solidly identified as a strong predictor of individual well-being (add references). Particularly, previous empirical studies indicated the trade-offs between work and leisure time, and between social and solitary time as the key time allocation decisions for achieving self-fulfillment. Our exploratory study suggests that current market and social trends might have made time spending decisions more complex. Thus, the link between time spending and well-being should be revisited including trade-offs regarding the cognitive effort and the degree of novelty of each task.

The conceptual model is illustrated in Figure 1.



To test the model empirically, a professional market research firm assisted us in collecting data from a national representative sample. N=1003 respondents from three segments: 18- 30 years (18,7%) , 31 – 50 years (41,4%), and 51 – 65 years (39,9%).

## FINDINGS

ANOVA and regression analyses reveal several interesting findings: First, the data confirm that there are three segments which have different drivers of ROT. Second, and contrary to our thinking, making investments in equipment or buying services to offload tasks (i.e. time buying) and activities to save time (e.g. prioritizing, working efficiently, activating a network, etc) were non-significant for all segments. Third, being able to spend your time on a variety of activities is a key driver of return on time for all segments. Time spent with family and friends was significant for the young and midlife segment but not for the older segment. Surprisingly, the young segment more than the mid-life segment, is truly focused on quality of time spent on hobbies. For the younger segment we find that spending quality time with friends reduces return on time. While friends enrich life, it ties up time to maintain friendship. Finally, all segments' perception of return on time is positively correlated with individual well-being.

## IMPLICATIONS

Individual well-being is central to quality of life. While return on time is a generic phenomenon, what impacts people's perception of return on time and consequently their individual well-being, differs among segments. In this paper we have argued that return on time is a function of buying time, saving time, and spending time. We found that buying time and saving time were not significant for any of the segments. From this we draw the return of time is fundamentally a question about how people spend their current available time. In other words: gaining more time is not an issue. Spending time is a function of variety (all segments), with family (young and mid-life segments), and hobby (younger segment). While the young segment want to spend time with friends they realize that this ties up time, which reduces return on time. Finding the right or better balance for this segment, will be a challenge. People with a low return on time will have an incentive to do something about it. While the hedonic joy of spending time was the stronger factor in RoT, we predict that a more goal oriented behavior targeted at gaining more time (i.e. buying and saving), will emerge. Service firms which through their innovations focus on gaining more time or allow consumers to spend more time effectively with them, will gain a competitive advantage.

# **SALESPERSON'S OPENNESS TO SOLUTIONS: ORGANIZATIONAL DRIVERS AND PERFORMANCE OUTCOME**

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## **ABSTRACT**

Effective solution selling is crucial for a manufacturer's competitive advantage. However, empirical research on salespeople's attitude and behavior in solution business is surprisingly scarce. This paper aims to fill the gap by identifying a salesperson's openness to solutions as key driver of solution sales performance. Building on behavioral psychology, we conceptualize openness to solutions as a two-dimensional reflection of the salesperson's motivation to accept a solution strategy. With regard to organizational drivers, we find support for the impact of both solution culture and solution training on the salesperson's openness to solutions. Top management's solution commitment, however, appears to be non-relevant.

## **INTRODUCTION**

In response to the increasing technological commoditization as well as stagnating product margins, more and more industrial companies tend to offer integrated bundles of products and service in order to generate competitive advantage (Davies, Brady, and Hobday 2007). However, the move from product centricity to a more integrated solution focus seems to be a big challenge. From a survey of 200 executives at Fortune 1000 companies, results show that about the half of solution providers realize only modest returns on investment. Even more surprising is that around 25 per cent of these companies actually lose money with their solution efforts (Tuli, Kohli, and Bharadwaj 2007).

Thus, authors increasingly refer to the critical role of salespeople in addressing the customer's specific needs, which ensures profitable long-term relationships. As Sheth and Sharma (2008, p. 70) note, "salespersons will be responsible for marshalling internal and external resources to satisfy customer needs and wants". Similarly, Cross et al. (2007) argue that "salespeople support, deliver and reinforces [sic!] the organizations customer focus" (p. 830). Thus, given the high internal and external pressures in solution business, "sales force research and practice have arrived at a critical juncture" (Jones et al. 2005, p. 110).

Besides the high relevance for both research and practice, there are little evidences on salespeople's selling behavior and sales performance in solution context. We identify two major gaps: first, there is no clear understanding of sales employees' solution orientation. As Ceresale and Stone (2004, p. 70) criticize, "many [salespeople] sell solutions like products. They do not understand the need to rethink their sales approach." According to this, existing research on salespeople's selling behavior primarily relates to the one-dimensional concept of customer orientation (e.g. Cross et al 2007). However, recent studies show that single-factor

perception is not sufficient for capturing a salesperson's selling attitude and behavior (e.g. Homburg, Müller, Klarmann 2011). In context of solution selling, we argue that salespeople have to be open-minded for solutions in order to reach outstanding sales performance. The second gap in solution sales literature refers to empirical research on the company-employee link. Due to the fact that most studies are of descriptive nature (Baines et al. 2009), no study has yet empirically examined the impact of internal parameters on a salesperson's openness to solutions. Findings from existing research, nevertheless, indicate that organizational aspects may serve as drivers of a salesperson's solution orientation (e.g. Antioco et al. 2008).

We aim to address these gaps. Our paper contributes to previous research in several ways. First, we conceptualize a salesperson's openness to solutions as prerequisite for the implementation success of a company's solution strategy. To the best of our knowledge, the sales management literature has not focused on a sales employee's psychological status of openness so far. Second, we also analyze the impact of different solution-related organizational design parameters on a salesperson's openness to solutions. Therewith, we follow the call for more research on organizational adjustments related to solution sales business (Baines et al. 2009). Finally, we examine the effect of a salesperson's openness to solutions on his/her solution sales performance. Although articles have identified a positive relationship between customer orientation and general sales performance (e.g. Cross et al. 2007), no study has yet adapted this relationship to the context of solution selling.

The paper is organized as follows. The next section presents our conceptual framework, followed by derived hypotheses. Subsequently, we describe the methodology. After reporting our results, we provide a brief discussion and illustrate implications for research and practice. Our study concludes with limitations and suggestions for further research.

## CONCEPTUAL FRAMEWORK

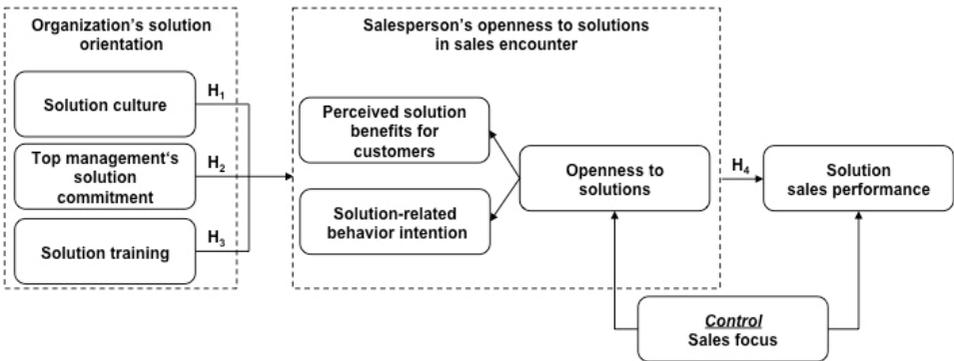
Figure 1 presents the framework of our study. The first issue is to analyze the impact of solution-related organizational adjustments on a salesperson's openness to solutions. According to contingency theory, organizational adaption to complex market conditions is critical for a company's performance (Zeithaml, Varadarajan, and Zeithaml 1988).

In this context, we analyze the impact of solution-related focus of corporate culture, top management's solution commitment, and salespeople's solution training. We define solution culture as the extent to which a mindset of solution-related sales focus has been anchored within the company (Salonen 2011). Top management's solution commitment refers to the level of interest in and support for a solution strategy provided by the company's top management (Noble and Mokwa 1999). Solution training, however, describes the extent to which a salesperson achieves adequate qualification in order to obtain both functional and relational competences for selling customized solutions (Antioco et al. 2008). Solution sales performance, however, reflects a salesperson's effectiveness of his/her

solution selling behavior.

As mentioned above, there is no clear understanding on the underlying psychological process of employees' intention and behavior in solution sales context. To conceptualize a salesperson's openness to solutions, we follow the initial work from Miller et al. (1994). The authors argue that an individual's psychological openness to organizational changes involves the "(a) willingness to support the change and (b) positive affect about the potential consequences of the change (e.g. feeling that the changes will be beneficial in some way)" (Wanberg and Banas 2000, p.132). Because openness constitutes an important driver for an individual's handling of complex situations in organizational context (Miller et al. 1994), we apply this construct to the salesperson's acceptance of solution strategy. Thus, openness to solutions consists of two dimensions: the salesperson's perception of customer benefits and his/her willingness to show solution-related selling behavior.

Table 1: Conceptual framework



## HYPOTHESES

First, we examine the impact of a solution-related corporate culture on the salesperson's openness to solutions. Research has provided strong support for the assumption that market-oriented culture positively affects a company's financial performance (e.g. Deshpandé, Farley, and Webster 1993). However, implementing market-oriented norms and values within an organizational system also has direct effects on the individual's behavior. For example, Williams and Attaway (1996) have provided empirical evidence that a salesperson's customer orientation mediates the impact of corporate culture on the quality of the relationship between customer and company. Similarly, Cross et al. (2007) have found a mediating effect of a salesperson's customer orientation on the link between corporate culture and sales performance. The authors argue, that "salespeople carry out the company's customer facing policies and are responsible for making direct contact with the customers which leads to sales performance" (p. 830). According to these results, we assume that a company's corporate focus on solution selling will positively affect a salesperson's openness to solutions. Thus:

H<sub>1</sub>: The organization's solution-related focus of corporate culture has a

positive effect on a salesperson's openness to solutions.

Top management's solution commitment affects a salesperson's openness to solutions. Considering service strategy implementation in manufacturing context, Gebauer, Fleisch, and Friedli (2005), for example, argue that managerial motivation is central for avoiding inefficiencies in service business (so-called "service paradox"). Also, more related to solution sales context, Miller et al. (2002) refer to the importance of the top management's internal commitment for implementing a solution strategy: "Leaders also have to set priorities for, say, the importance of solutions vis-à-vis products... [and]...leaders will need also to establish norms, discretion, cooperation, and conflict management" (pp. 10). Consequently, we argue that the top management's solution commitment drives a salesperson's positive evaluation of solution strategy and, thus, positively affects his/her openness to solutions:

H<sub>2</sub>: Top management's solution commitment has a positive effect on a salesperson's openness to solutions.

Solution-specific training is also related to a salesperson's openness to solutions. Industrial salespeople who are involved in solution business require not only technological expertise on selling single products but also the competence to understand a customer's whole business including processes, capabilities, and resources. As Pettijohn, Pettijohn, and Taylor (2002) state, "a salesperson who is lacking basic sales skills may be ill-equipped to engage in activities likely to lead to customer satisfaction due to the fact that this individual is incompetent to perform the tasks to which he or she has been assigned" (p. 747). Therefore, it is not surprising that authors increasingly call for trainings to ensure that salespeople exhibit the ability to identify the customer's benefits of solutions and to show solution-related selling behavior (Lakemond and Windahl 2010; Salonen 2011; Sheth and Sharma 2008). This leads us to hypothesis three:

H<sub>3</sub>: The organization's solution-related focus of training systems has a positive effect on a salesperson's openness to solutions.

Finally, we argue that a salesperson's openness to solutions affects his/her solution sales performance. It has been shown that customer-oriented attitudes and behavior result in customer satisfaction (Stock and Hoyer 2005). Accordingly, a solution-oriented salesperson is more able to address the customer's specific needs. This leads to higher selling rates compared to salespeople who show product-oriented selling attitudes. This assumption goes in line with previous research that focuses on the direct impact of salespeople's customer orientation on sales performance (e.g. Jaramillo et al. 2007). Hence, we expect:

H<sub>4</sub>: A salesperson's openness to solutions has a positive effect on his/her solution sales performance.

## METHODOLOGY

We conducted an online survey with salespeople from product manufacturing companies. A key characteristic of our study is that we focus on sales employees that have selling experiences in both single products and solutions. Thus, we double-checked for accuracy. First, we asked all potential respondents to only participate in the survey if they are involved in solution business. Second, we provided an initial description of the solution concept in order to ensure that all respondents understand our research context in the same way.

Validated scales from previous research were used for measuring the model constructs, when possible. However, given the scarcity of prior empirical research on solution sales management, some scales were adapted or even newly developed. Solution culture was measured with three items, based on Homburg, Fassnacht, and Guenther (2003). In order to measure top management's solution commitment, we developed a new three-item scale. For measuring solution training, we adapted three items from the scale of Gebauer et al. (2010). As mentioned above, we conceptualize a salesperson's openness to solutions as second-order construct, including two dimensions (i.e. perceived solution benefits for customers, solution-related behavior intention). We measured each dimension with three items adapted from the openness to change scale of Miller, Johnson, and Grau (1994). In order to reduce the model's complexity, we applied the item-parceling approach (Bagozzi and Edwards 1998). Hence, we first created two global indicators by averaging the items on the level of each dimension. In the following, we used these two global indicators for measuring the focal construct (i.e. openness to solutions). For measuring solution sales performance, we adopted three items from existing research (Homburg, Müller, and Klarmann 2011; Oliver and Anderson 1994). Consistent with previous literature, we applied a self-report measurement approach (e.g. Behrman and Perreault 1984; Cross et al. 2007). For all constructs mentioned above, we used items based on a seven-point rating with anchors from 1 = "strongly disagree" to 7 = "strongly agree". However, we also considered the employee's sales focus as additional (negative) impact factor on both openness to solutions and solution sales performance. We measured sales focus as the relative share of single products with regard to the salesperson's overall sales activities during the last 12 months (using a five-point rating with anchors from 1 = "0 - 20 per cent" to 5 = ">80 - 100 per cent").

To assess measurement reliability as well as validity, we conducted confirmatory factor analyses for all constructs and the complete model. For all constructs, the general reliability values are well above the recommended threshold, indicating acceptable psychometric properties (Nunnally 1978; Bagozzi and Baumgartner 1994). Using the AVE criterion as suggested by Fornell and Larcker (1981), we also detect no problems with regard to discriminant validity. On overall model level, the results of confirmatory factor analysis provide an adequate fit to the data ( $\chi^2/df = 1.54$ ; CFI = .95; TLI = .93; RMSEA = .08; SRMR = .06).

## RESULTS

We estimated the structural equation model presented in Figure 1 by using MPlus 6.0 software (Muthén and Muthén 1998-2010). Congruent with our hypothesis H1, we find strong support for the positive impact of solution-related corporate culture on the salesperson's openness to solutions ( $\beta = .390, p < .05$ ). As second driver of a salespeople's openness to solutions, H2 predicts a positive effect of the top management's solution commitment. The parameter estimate is positive but not significant ( $\beta = .056, p > .10$ ). In line with H3, solution-related training takes a positive parameter and shows a significant impact on a salesperson's openness to solutions ( $\beta = .231, p < .10$ ). Finally, the results provide empirical support for the positive relationship between a salesperson's openness to solutions and his/her solution sales performance ( $\beta = .542, p < .01$ , H4 supported). With regard to our control variable (i.e. sales focus), however, we find no significant effects (i.e. impact on openness to solutions:  $-.168, p > .10$ ; impact on solution sales performance:  $-.029, p > .10$ ).

## DISCUSSION

The objective of this paper was to enlarge existing knowledge on solution sales management. We first introduced the concept of psychological openness as second-order reflection of a salesperson's solution orientation. Second, we analyzed the impact of internal adjustments on a salesperson's openness to solutions. Although it is common sense that organizational adaption to solution business requirements are critical for employees' selling behavior, no research has empirically examined this link so far.

Not surprising, both solution-related corporate culture and training have been identified as key drivers of a salesperson's openness to solutions. By this, our results are in line with existing research on strategy implementation (e.g. Antioco et al. 2008; Gebauer et al. 2010). However, our results demonstrate no relevance of the top management's solution commitment for a salesperson's psychological status of openness. This lack is interesting since it underlines the controversial discussion on the impact of top managers' attitudes on employees' behavior (e.g. Noble and Mokwa 1999; O'Reilly et al. 2010).

Our results have several practical implications for increasing solution sales performance. A critical point on the manufacturer's way to high performance in solution business is to establish a clear focus on customer centricity within the corporate values and beliefs. Moreover, our study offers clear finding that a salesperson's openness to solutions is not improved by the top management's solution commitment. In other words, strategy commitment on management level does not ensure solution orientation on employee level. Therefore, companies that seek for competitive advantage in solution business need to provide a clear solution-related mindset across all functions and hierarchical levels. Additional support for the relevance of a strong corporate culture is provided through the fact that sales focus (i.e. single product selling versus solution selling) has no impact on a salesperson's openness to solutions. Solution-specific training

is also relevant for improving a salesperson's openness to solutions. However, solution providers have to ensure that training activities cover both functional and relational aspects.

Like other empirical work, our study suffers from limitations and, therewith, provides opportunities for further research. First, we concentrate on a limited set of organizational parameters. However, we assume there are some other impact factors on a salesperson's openness to solutions. Examples might be customer integration systems, interdepartmental collaboration, and solution-related incentive structures (e.g. Salonen 2011; Tuli, Kohli, and Bharadwaj 2007). It would be interesting to consider such factors in further studies. Second, as we asked for participants that exhibit selling experience in both single components and solutions, our sample is relatively small. Therefore, we call for more research on larger samples in order to test our findings. According to this, we also recommend additional research on the customer-salesperson-link. It would be interesting to know whether a salesperson's openness to solutions positively affects a customer's perception of trust in the salesperson's functional and relational competencies.

## REFERENCES

- Antioco, M., Moenaert, R. K., Lindgreen, A., and Wetzels, M. G. M., (2008), "Organizational antecedents to and consequences of service business orientations in manufacturing companies", *Journal of the Academy of Marketing Science*, 36 (3) 337-358
- Bagozzi, R. P. and Baumgartner, H., (1994), "The evaluation of structural equation models and hypotheses testing", *Principles of Marketing Research*, R.P. Bagozzi (ed.), Blackwell, Cambridge, United States of America, 396-22
- Bagozzi, R. and Edwards, J., (1998), "A general approach for representing constructs in organizational research", *Organizational Research Methods*, 1 (1) 45-87
- Baines, T. S., Lightfoot, H. W., Benedettini, O., and Kay J. M., (2009), "The servitication of manufacturing: a review of literature and reflection on future challenges", *Journal of Manufacturing Technology Management*, 20 (5) 547-567
- Behrman, D. N. and Perreault, W. D. Jr., (1984), "A role stress model of the performance and satisfaction of industrial salespersons", *Journal of Marketing*, 48 (4) 9-21
- Ceresale, M., and Stone, M., (2004), *Business solutions on demand*, Sterling Kogan Page, London, England
- Cross, M. E., Brashear, T. G., Rigdon, E. E., and Bellenger, D. E., (2007), "Customer orientation and salesperson performance", *European Journal of Marketing*, 41 (7/8) 821-835

Davies, A., Brady, T., and Hobday, M., (2007), "Organizing for solutions: System seller vs. system integrator", *Industrial Marketing Management*, 36 (2) 183-193

Deshpandé, R., Farley, J. U., and Webster, F. E., (1993), „Corporate culture, customer orientation, and innovativeness in japanese firms: a quadrad analysis“, *Journal of Marketing*, 57 (1) 23-37

Fornell, C. and Larcker, D. F., (1981), "Evaluating structural equation models with unobservable variables and measurement error“, *Journal of Marketing Research*, 18 (1) 39-50

Gebauer, H., Fleisch E., Friedli, T., (2005), "Overcoming the service paradox in manufacturing companies“, *European Management Journal*, 23 (1) 14-26

Gebauer, H., Edvardsson B., Gustafsson, A., and Wittell, L., (2010), "Match or mismatch: Strategy-structure configurations in the service business of manufacturing companies“, *Journal of Service Research*, 13 (2) 198-215

Homburg, C., Fassnacht, M., and Guenther, C. (2003), "The role of soft-factors in implementing a service-oriented strategy in industrial marketing companies“, *Journal of Business-to-Business Marketing*, 10 (2) 23-51

Homburg, C., Müller, M., and Klarman, M., (2011), "When should the customer really be king? On the optimum level of salesperson customer orientation in sales encounters“, *Journal of Marketing*, 75 (2) 55-74

Jaramillo, F., Ladik, D. M., Marshall, G. W., and Mulki, J. P., (2007), "A meta-analysis of the relationship between sales orientation-customer orientation (SOCO) and salesperson job performance“, *Journal of Business & Industrial Marketing*, 22 (5) 302-310

Jones, E., Brown, S. P, Zoltners, A. A., and Weitz, B. A, (2005), "The changing environment of selling and sales management“, *Journal of Personal Selling and Sales Management*, 25 (2) 105-111

Miller, V. D., Johnson, J. R., and Grau J., (1994), "Antecedents to willingness to participate in a planned organizational change“, *Journal of Applied Communication Research*, 22 (1) 59-80

Miller, D., Hoep, Q., Eistenstat, R., Foote, N. and Galbraith, J., (2002), "The problem of solutions: balancing clients and capabilities“, *Business Horizons*, 45 (2) 3-12

Muthén, L. K. and Muthén, B. O. (1998-2010), *MPlus user's guide*, 6th ed., Muthén & Muthén, Los Angeles

Nunnally, J. C. (1978), *Psychometric Theory*, 2nd ed., McGraw-Hill, New York, United States of America

Oliver, R. L., and Anderson E., (1994), "An empirical test of the

consequences of behavior- and outcome-based sales control systems”, *Journal of Marketing*, 58 (4) 53-67

Pettijohn, C. E., Pettijohn, L. S., and Taylor, A. J. (2002), “The Influence of salesperson skill, motivation, and training on the practice of customer-oriented selling”, *Psychology & Marketing*, 19 (9) 743-757

Salonen, A. (2011), “Service transition strategies of industrial manufacturers”, *Industrial Marketing Management*, 40 (5) 683-690

Sheth, J. N., and Sharma, A., (2008), “The impact of the product to service shift in industrial markets and the evolution of the sales organization”, *Industrial Marketing Management*, 37 (3) 260-269

Stock, R. M. and Hoyer, W. D. (2005), “An Attitude-Behavior Model of Salespeople’s Customer Orientation”, *Journal of the Academy of Marketing Science*, 33 (4) 536-552

Tuli, K. R., Kohli, A. K., and Bharadwaj, S. G., (2007), “Rethinking Customer Solutions: From Product Bundles to Relational Processes”, *Journal of Marketing*, 71 (3) 1-17

Windahl, C., and Lakemond N., (2010), “Integrated solutions from a service-centered perspective: Applicability and imitations in the capital goods industry”, *Industrial Marketing Management*, 39 (8) 1278-1290

Wanberg, C. R., and Banas, J. T., (2000), “Predictors and outcomes of openness to changes in a reorganizing workplace”, *Journal of Applied Psychology*, 85 (1) 132-142

Zeithaml, V. A., Varadarajan, P., Zeithaml, C. P. (1988), “The Contingency Approach: Its Foundations and Relevance to Theory Building and Research in Marketing”, *European Journal of Marketing*, 22 (7) 37-64

# SCALE DEVELOPMENT OF EMPOWERING BEHAVIOR FROM THE MANAGEMENT PERSPECTIVE

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## EXTENDED ABSTRACT

The practice of employee empowerment is an important managerial tool in the service industry. According to Kanter (1977), empowering frontline employees may improve flexibility and promptness during service encounters by pushing the decision making down to the service level. A meta-analytical study (Seibert, Wang, & Courtright, 2011) reports that employee empowerment is positively related to desirable job attitudes (e.g., job satisfaction and organizational commitment) and behaviors (e.g., job performance). Further, empirical research in the hospitality context has also been documented that empowered workers are more likely to be committed (Kim, Lee, Murrmann, & George, 2012), help colleagues and perform well (Kim, Losekoot, & Milne, 2013).

In order to measure empowerment, previous research predominantly used a 12 item scale of psychological empowerment (Spreitzer, 1995) which focuses on the perceptions of a subordinate – one's empowered feeling, while no sound measurement exists for empowering behavior from the leader's perspective in the literature. The primary purpose of this research is to develop a measurement scale of empowering behavior of leaders and examines its relationship with employees' perception of empowerment (i.e., psychological empowerment) and attitudes on the job. This investigation is important, since it is empowering behavior that is intervened by organizational policies and practices rather than employees' psychological perception of empowerment which is beyond organization's control.

This research incorporated mixed methods including both qualitative and quantitative approaches and followed the guideline of Hinkin, Tracey and Enz (1997) to develop a scale of empowering behavior. From the empowerment literature, a total of 17 items of empowering behavior was generated and then reviewed by a panel group consisting of three researchers and four industry practitioners to assess content validity of these items. Consequently, two types of survey questionnaires were administered to both service-contact employees (n= 303) and their immediate supervisors (n= 33) in New Zealand and South Korea. Four sub-dimensions of leader's empowering behavior (i.e., 1. increasing decision latitude, 2. giving accountability, 3. encouraging initiative and 4. sharing information) were extracted by Exploratory Factor Analysis (EFA) using SPSS 19 and verified by Confirmatory Factor Analysis (CFA) using LISREL 8.8.

The construct validity (c.f., convergent validity) of four factors of empowering behavior was assessed by examining their relationships with employees' perception of empowerment (i.e., psychological empowerment) and job attitudes such as job satisfaction and

organisational commitment. All four factors of empowering behavior were positively related to psychological empowerment, job satisfaction and organisational commitment except for the relationship between giving accountability and job satisfaction. Interestingly, the relationships of empowering behaviors with employees' work attitudes were more salient for South Korean sample than for New Zealand counterparts.

As one of few studies that empirically demonstrate that empowering behavior positively influences employees' perception of empowerment and attitudes on the job using culturally diverse sample, the findings of this study have several implications for researchers and practitioners alike such as two sample research design, necessities for leadership trainings for managers in terms of empowering behavior and a moderating role of cultural difference in the relationship between empowering behavior of leaders and employees' work attitudes.

## REFERENCES

Hinkin, T. R., Tracey, J. B., & Enz, C. A. (1997). Scale construction: Developing reliable and valid measurement instruments. *Journal of Hospitality & Tourism Research*, 21 (1), 100-120.

Kanter, R. M. (1977). *Men and women of the corporation*. New York: Basic Books.

Kim, B. P., Lee, G., Murrmann, S., & George, T. (2012). Motivational effects of empowerment on employees' organizational commitment: A mediating role of management trustworthiness. *Cornell Hospitality Quarterly*, 53(1), 10-19.

Kim, B. P., Losekoot, E., & Milne, S. (2013). Consequences of empowerment among restaurant servers: Helping behaviors and average check size. *Management Decision*, 51(4), 5-5.

Seibert, S. E., Wang, G., & Courtright, S. H. (2011). Antecedents and consequences of psychological and team empowerment in organizations: a meta-analytic review. *Journal of Applied Psychology*, 96(5), 981-1003.

Spreitzer, G. M. (1995). Psychological empowerment in the workplace: Dimensions, measurement, and validation. *Academy of Management Journal*, 38 (5), 1442-1465.

# SEEN BUT NOT RECALLED: INVESTIGATING THE EFFECTS OF DIGITAL SIGNAGE WITH EYE-TRACKING

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## ABSTRACT

This field study investigates customers' visual attention to digital signage. One-hundred grocery store customers were given a shopping task in which they passed several signage stimuli. Based on eye-tracking data and questionnaires, the results show that recall measures of visual attention significantly underestimate the actual amount of attention directed toward digital signage, and that customers' levels of store familiarity is positively associated with visual attention toward digital signage, although this effect is moderated by store knowledge. The study's findings suggest that digital signage is important for customers' experiences of the retail environment, which is helpful in terms of navigation.

## INTRODUCTION

Products and services are experienced and purchased in various physical surroundings, also known as servicescapes (Bitner, 1990; Bitner, 1992). Digital signage (that is, flat displays with digitally linked informational messages and/or advertisements) constitutes one important dimension of this environment. Signage stimuli are crucial for communicating new service concepts and for forming customers' initial impressions of the servicescape (Bitner, 1992). Because its content can vary at different times of day, digital signage placed within service settings provides firms with considerable flexibility (Dacko, 2012). Each year, retailers spend millions of dollars on distributing and monitoring such in-store stimuli (Kiran et al., 2012), and the digital signage market is estimated to generate revenues of US\$15 billion in 2016 (Want and Schillit, 2012). Despite this, research on digital signage is scarce. Grewal et al. (2011) argued that one of the key issues to investigate regarding promotional design is the effectiveness of in-store digital signage on consumer shopping behavior. The common denominator of existing studies, based on sales (e.g., Nordfält, 2011), recall (e.g., Russell, 2009), and customers' experiences of this in-store medium (e.g., Newman et al., 2010), is the claim that digital signage is an effective marketing strategy that leads to increased consumption, reduced time-perceptions in waiting lines, and a more favorable shopping atmosphere. However, few studies have explicitly explored the effects that digital signage has on customers visual attention. Research based on sales, recall data, or interviews contains information about what might have been looked at, but such information is non-explicit and is typically collected after the exposure of in-store stimuli. The purpose of the present study is to provide more detailed measures of visual attention directed toward digital signage during, rather than after, the exposure of such stimuli. An additional aim is to investigate how the knowledge and familiarity of a store influences and is influenced by the viewing of this in-store tool.

## THEORY AND HYPOTHESES DEVELOPMENT

The consumer behavior literature has widely assumed that exposure of in-store stimuli has positive effects on customers' attitudes, evaluations, and selections of products and brands (Baker, 1999; Berger and Fitzsimons, 2008; Janiszewski, 1993), which ultimately results in increased sales volumes and unplanned buying behavior (e.g., Inman et al., 2009; Kollat and Willet, 1969; Park et al., 1989). Although visual attention is a prerequisite for such exposure effects, if in-store stimuli is to have an impact on sales, it must trigger the need or desire of the products to be purchased. This is often achieved by the customers themselves, by activating certain memories related to the exposed stimuli, such as the realization that an advertised item has been satisfactorily experienced in the past. Consequently, consumer research has given a prominent place to measures that rely on customers' memory. However, recent findings have questioned the validity of memory-based measures to infer exposure (Chandon et al., 2009). For example, self-reported recall (that is, responses about what an individual can remember having perceived) demands consciousness of a stimulus, but visual attention often occurs beyond consciousness (Bargh, 2002). Moreover, exposure effects can arise even if the customer is unaware of, and therefore unable to recall, the stimulus (Baker, 1999; Janiszewski, 1993). In an eye-tracking experiment (with recordings of 384 adult shoppers' eye-movements), Chandon et al. (2009) demonstrated that recall missed more than two-thirds of the experimental stimuli (brands) that the customers visually perceived. Although these results were obtained in a lab facility with virtual supermarket shelves, similar effects could be generalized, and therefore applicable to other in-store stimuli, even in the real retail environment. This leads to the following prediction:

H1: Customers in a retail store will recall a significantly lower number of digital displays than they have actually looked at.

Two factors that have previously been found to influence unplanned purchases, due to differing degrees of in-store stimuli exposure, are store knowledge (ease of navigation in a store; Park et al., 1989) and store familiarity (shopping frequency in a store; Inman et al., 2009). Park et al. (1989) found that store knowledge had a significant negative effect on unplanned purchases. This was explained by the greater reliance of in-store stimuli that was assumed among customers who had low store knowledge. Therefore, in order to navigate and find products or store sections, customers with limited knowledge about a store's environment will direct their attention toward various in-store cues. Accordingly, we hypothesize:

H2: Customers who have lower levels of store knowledge will direct their visual attention toward digital signage to a greater extent than customers who have high store knowledge.

A somewhat contrasting prediction can be drawn from Inman et al. (2009), who found that store familiarity had a significant positive effect on unplanned purchases. The conclusion drawn by Inman et al. was that

familiar customers have a higher ability to use the store environment as a guide for their shopping needs. Without the need for search activities, store-familiar customers can therefore direct more of their visual attention toward in-store stimuli. Taking these results into account, it is reasonable to expect:

H3: Customers who have lower levels of store familiarity will direct their visual attention toward digital signage to a lesser extent than customers who have high store familiarity.

The next section describes the methodology of the present study, followed by an examination of the above-stated hypotheses.

## METHODOLOGY

Visual attention was measured by means of eye-tracking, which is a commonly used technique for recording eye-movements. A head-mounted eye-tracking system similar to a regular pair of glasses recorded participants' eye-fixations (that is, the points at which the eye fixates upon an object and acquires information; Russo, 2011) with a sampling frequency of 30 Hz. In addition to the eye-tracking measures, data was obtained through post-study questionnaires.

### Participants

The sample consisted of 100 shoppers (61 males and 39 females) at a grocery store. Participants with z-scores above an absolute value of 2.00 standard deviations on the visual attention or recall measures were treated as outliers (cf. Mussweiler and Strack, 2000) and were therefore excluded from later analyses.

### Design and stimuli

The study adopted a quasi-experimental design. Participants were given a cover story in the form of a shopping task, and then walked past 16 digital displays (with broadcast content consisting of 18 commercials that were unrelated to the participants' shopping task).

### Measures

Fixation frequency was used to measure the total number of fixations that occurred on the digital displays. Fixations are a valid measure of visual attention (Wedel and Pieters, 2008) and are the most reported events in eye-tracking data (Holmqvist et al., 2011).

Observation frequency was used as an additional measure of visual attention in order to compare the number of displays that were visually perceived (and therefore received at least one eye-fixation) with the number of displays that were recalled. An observation is the viewing of a given area or object, disregarding the actual number of fixations.

Recall was measured using the following three questions: "Did you notice any digital displays during your shopping trip?"; [If yes:] "How many digital

displays did you see?”, and “Can you recall what was shown on the displays?”

Store knowledge was measured using the statement “I think it is easy to find my way around in this store”, whereas store familiarity was measured using the statement “I often shop at this store”. Both statements were graded on a seven-point Likert-scale, ranging from 1 (strongly disagree) to 7 (strongly agree). Following the procedure in Chandon et al. (2009), both measures were separately collapsed into three different categories: “Low” (1–2), “Moderate” (3–5), and “High” (6–7). The “Low” store knowledge category was excluded from the analysis because it only consisted of one subject.

## Procedure

Participants were given an overview of the study’s purpose, which included the stated aim of investigating how visual attention is directed while completing an ordinary shopping task. A calibration procedure of the eye-tracking equipment was then conducted, followed by recordings of eye-movements. Participants were given a shopping list (identical among all subjects) and were individually instructed to collect the products on the list as a fill-in shopping trip (cf. Nordfält, 2005). To do this, participants had to walk past all 16 digital displays. When they had finished, the eye-tracking equipment was removed and they filled out a paper-and-pencil survey that included demographic information, recall-measures of digital signage, and the statements linked to store knowledge and store familiarity.

## RESULTS

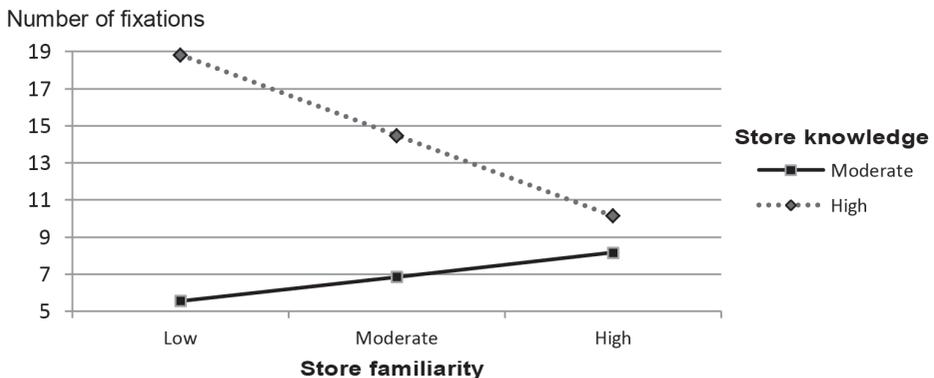
Overall, participants observed approximately 9 percent of the store’s digital displays ( $M = 9.20$  percent,  $SD = 8.51$  percent, range: 0 – 31.25 percent). The percentage of subjects who viewed at least one digital display was 69.23 percent. Of all the visually perceived displays, 31.24 percent were recalled (meaning that the remaining 68.76 percent were not recalled). Only 9.89 percent of participants could correctly recall the content that any of the signage stimuli displayed.

In order to further investigate the predicted difference between the number of visually perceived versus recalled digital displays (H1), a paired-samples t-test was conducted. The results revealed a statistically significant difference in the hypothesized direction [ $t(91) = 7.00$ ,  $p < .001$  (two-tailed),  $r = .59^*$ ]. Although there was a significant positive correlation between the measures ( $r = .28$ ,  $p = .007$ ), participants observed more than three times as many digital displays as they could recall ( $M_{obs} = 1.47$ ,  $SD_{obs} = 1.36$ ;  $M_{rec} = 0.46$ ,  $SD_{rec} = 0.82$ ).

A simple moderation analysis (cf. Hayes, 2012) was conducted in order to investigate the effects of store knowledge and store familiarity on visual attention toward digital signage (H2-H3). Fixation frequency was set as the dependent variable, while store knowledge was treated as the moderator, and store familiarity was set as the independent variable. The model explained 15 percent of the variance in fixation frequency toward digital

signage [ $R^2 = .15$ ,  $F(3, 93) = 5.44$ ,  $p = .002$ ]. The direct effect of store familiarity on fixation frequency was statistically significant ( $\beta_2 = 16.81$ ,  $SE = 8.09$ ,  $t = 2.08$ ,  $p = .040$ ), as was the direct effect of store knowledge ( $\beta_2 = 20.52$ ,  $SE = 5.87$ ,  $t = 3.50$ ,  $p < .001$ ). Therefore, the positive slope on the store familiarity coefficient ( $\beta_2$ ) supports H3; as store familiarity increases, so do fixations toward digital signage. In contrast, the positive slope on the store knowledge coefficient ( $\beta_2$ ) contradicts H2, which suggests the opposite (negative) direction. However, a statistically significant interaction was found between the independent variable and the moderator ( $\beta_2 = -7.54$ ,  $SE = 3.13$ ,  $t = -2.41$ ,  $p = .018$ ), with the  $R^2$ -increase due to the interaction also being significant [ $R^2$ -change =  $.05$ ,  $F(1, 93) = 5.81$ ,  $p = .018$ ]. Participants who shopped infrequently (low store familiarity) and found it more difficult to find their way around in the store (moderate store knowledge) had a smaller number of fixations on the signage stimuli than participants who shopped infrequently and found it easy to find their way around in the store. This difference between moderate and high store knowledge customers diminishes as store familiarity increases (see Figure 1).

Figure 1: Mean fixation frequency on digital signage, depending on store familiarity and store knowledge.



## DISCUSSION

This study provides additional support for the claim that recall measures of visual attention do not entirely capture what is perceived visually, and that such measures grossly underestimate the actual amount of attention directed toward various stimuli. In support of H1, we found that recall missed nearly 69 percent of the digital displays that were actually looked at. The study also shows that the amount of attention directed toward digital signage is affected by customers' familiarity with and knowledge of the store. In accordance with H3, visual attention toward digital signage increases as store familiarity increases. The same applies to the concept of store knowledge, with customers with higher levels of store knowledge attending to more signage stimuli; this directly contradicts H2.

\* According to Cohen (1988), the effect of the correlation coefficient  $r$  is small, medium, and large when  $r = .10$ ,  $.30$  and  $.50$ , respectively.

However, although store familiarity positively influences the degree of visual attention directed toward digital signage, this effect is moderated by customers' levels of store knowledge. Hence, some customers who shop infrequently (that is, those who have low store familiarity) appear to use digital signage in their navigation, as an information processing component. These customers find that the digital signage helps them find their way around the store. Other customers who shop infrequently fail to use the signage stimuli in their navigation, which leads to more search difficulties. Therefore, despite the fact that a large percentage of digital displays are not observed, such stimuli still seem to have the potential to help customers in their navigation.

### Methodological implications

In some aspects, the discrepancy obtained here between self-reported recall and visual attention is similar to the results reported in Chandon et al. (2009), where only 31 percent of the visually perceived stimuli were recalled, compared to 69 percent that were perceived but not recalled. However, there are three vital differences between Chandon et al.'s study and the present study. Firstly, the experimental stimuli used in the present research comprised of digital displays instead of brands located on virtual supermarket shelves. Secondly, the present study was conducted in real retail settings rather than in a lab environment. Finally, whereas 31 percent of participants could recall what they had looked at in the Chandon et al. study, fewer than 10 percent of participants in the present study could correctly recall the content of the stimuli used (although 31 percent were aware of the stimuli). This suggests that recall rates in real retail settings could be even lower, due to distraction, the numerous tasks that need to be handled simultaneously, and the resulting divided attention. Additionally, as signage content predominantly includes visual (rather than verbal) components, further questions can be raised concerning the adequacy of verbal-based measures of recall to infer exposure. Since recall-measures typically require the participant to verbalize what they have perceived, verbal shadowing (that is, the process by which an effort to verbalize a perception interferes with the creation of an image corresponding to that perception) may occur. There is substantial evidence that the processing of verbal and visual information is handled in different areas of the human brain, with the left hemisphere specializing in verbal processing and the right hemisphere specializing in visual processing (e.g., Kimura, 1973; Wickens, 1991). Therefore, asking a participant to verbally describe what they have perceived could "shadow" the visual memory of the perception, leading to lower recall rates.

### Theoretical implications

The findings reported herein suggest that store knowledge and store familiarity should be interpreted as two distinct constructs. As reported, store familiarity influences the amount of visual attention that is directed toward digital signage, but this is moderated by store knowledge. Whereas Inman et al. (2009) viewed these terms as equalities, the present study provides evidence that this is not the case. For instance, modern stores in a grocery chain tend to have similar layouts, suggesting that customers

may find it easy to navigate in a specific store (that is, have high store knowledge) without having ever been to that store (low store familiarity). This may help explain the inconsistent results obtained by Park et al. (1989) and Inman et al. (2009), since the former used the store knowledge concept, while the latter used the familiarity-based measure. However, neither of those studies explicitly investigated the link between store knowledge/store familiarity and visual attention directed toward in-store stimuli. This could be a reason for the present study's finding that store knowledge was positively associated with attention toward in-store stimuli, rather than negatively associated (as reported in Park et al. 1989). Unlike Park et al. (1989), we applied an actual measure of visual attention in relation to store knowledge.

### Managerial implications

Because digital displays only seem to be looked at occasionally, managers should try to ensure that they are located in places that are easy to find. This is particularly important given that some customers seem to use signage stimuli as a navigation tool when searching for products or store sections. Based on their navigational potential, signage stimuli should also convey messages that relate to customer-specific tasks or goals, or the store's assortment of nearby goods. Burke (2009) reported that customers are most responsive to messages that are congruent with their current shopping task. When this criterion is fulfilled, digital signage has a significant impact on sales (Burke, 2009), but also creates a more favorable shopping atmosphere (Newman et al., 2010). Finally, signage stimuli must be able to convey their messages instantly, as they are often looked at only once. Consequently, signage content should be salient and properly organized, with textual and pictorial information located in positions that facilitate immediate detection (cf. Otterbring et al., 2013). This will increase the likelihood that the stimuli are perceived, processed, and understood.

### Limitations and future research

The percentage of observed digital displays presented here may underestimate the amount of visual attention that such stimuli receive at a more general level. Studies have found that customers with well-defined shopping tasks, as was the case for subjects in the present study, attend to fewer signage stimuli than customers engaged in browsing or socializing (Burke, 2009). Moreover, the use of a shopping list has been found to effectively reduce unplanned purchases (Inman et al., 2009). The fact that our participants used a shopping list may have limited their processing of in-store stimuli. However, Nordfält (2005) found that customers undertaking a fill-in trip to the grocery store (like participants in the present study did) made more unplanned purchases, and presumably looked at a larger number of in-store stimuli than customers undertaking regular major trips. Due to these inconsistent results and previous findings in the marketing literature showing that visual attention is task-dependent (e.g., Pieters and Wedel, 2007), one possible area for future research would be to investigate how visual attention varies as a function of the customers' specific shopping task.

## REFERENCES

- Baker, W.E. (1999), "When can affective conditioning and mere exposure directly influence brand choice?", *Journal of Advertising*, 28, 31–46.
- Bargh, J.A. (2002), "Losing consciousness: Automatic influences on consumer judgment, behavior, and motivation", *Journal of Consumer Research*, 29, 280–285.
- Berger, J. and Fitzsimons, G. (2008), "Dogs on the street, pumas on your feet: How cues in the environment influence product evaluation and choice", *Journal of Marketing Research*, 45, 1–14.
- Bitner, M.J. (1992), "Servicescapes: The impact of physical surroundings on customers and employees", *Journal of Marketing*, 56, 57–71.
- Burke, R.R. (2009), "Behavioral effects of digital signage", *Journal of Advertising Research*, 49, 180–185.
- Chandon, P., Hutchinson, J.W., Bradlow, E.T. and Young, S.H. (2009), "Does in-store marketing work? Effects of the number and position of shelf facings on brand attention and evaluation at the point of purchase", *Journal of Marketing*, 73, 1–17.
- Cohen, J. (1988), *Statistical power analysis for the behavioral sciences*, Academic Press, NY.
- Dacko, S.G. (2012), "Time-of-day services marketing", *Journal of Services Marketing*, 26, 375–388.
- Grewal, D., Ailawadi, K.L., Gauri, D., Hall, A., Kopalle, P. and Robertson, J.R. (2011), "Innovations in retail pricing and promotions", *Journal of Retailing*, 87S, S43-S52.
- Hayes, A. F. (2012), *PROCESS: A versatile computational tool for observed variable mediation, moderation, and conditional process modeling*. Available at: <http://www.afhayes.com/public/process2012.pdf> (Accessed 16 September 2012).
- Holmqvist, K., Nyström, M., Andersson, R., Dewhurst, R., Jorodzka, H. and van de Weijer, J. (2011), *Eye tracking: A comprehensive guide to methods and measures*. Oxford University Press, NY.
- Inman, J.J., Winer, R.S. and Ferraro, R. (2009), "The interplay among category characteristics, customer characteristics, and customer activities on in-store decision making", *Journal of Marketing*, 73, 19–29.
- Janiszewski, C. (1993), "Preattentive mere exposure effects", *Journal of Consumer Research*, 20, 376–392.
- Kimura, D. (1973), "The asymmetry of the human brain", *Scientific*

American, 228, 70–80.

Kiran, V., Majumdar, M. and Kishore, K. (2012), “Innovation in in-store promotions: Effects on consumer purchase decisions”, *European Journal of Business and management*, 4, 36–44.

Kollat, D.T. and Willet, R.P. (1969), “Is impulsive purchasing really a useful concept for marketing decisions?”, *Journal of Marketing*, 33, 79–83.

Mussweiler, T. and Strack, F. (2000), “Numeric judgment under uncertainty: The role of knowledge in anchoring”, *Journal of Experimental Social Psychology*, 36, 495–518.

Newman, A., Dennis, C., Wright, L.T. and King, T. (2010), “Shoppers’ experiences of digital signage: A cross-national qualitative study”, *International Journal of Digital Content Technology and its Applications*, 4, 50–57.

Nordfält, J. (2005), *Is consumer decision-making out of control? Non-conscious influences on consumer decision-making for fast moving consumer goods*. Doctoral dissertation, Stockholm School of Economics.

Nordfält, J. (2011), “Improving the attention-capturing ability of special displays with the combination effect and the design effect”, *Journal of Retailing and Consumer Services*, 18, 169–173.

Otterbring, T., Shams, P., Wästlund, E. and Gustafsson, A. (in press), “Left isn’t always right: Placement of pictorial and textual package elements”, *British Food Journal*.

Park, C.W., Iyer, E.S. and Smith, D.C. (1989), “The effects of situational factors on in-store grocery shopping behavior: The role of store environment and time available for shopping”, *Journal of Consumer Research*, 15, 422–433.

Pieters, R. and Wedel, M. (2007), “Goal control of attention to advertising: The Yabus implication”, *Journal of Consumer Research*, 34, 224–233.

Russell, M.G. (2009), “Narrowcast pricebook-driven persuasion: Engagement at point of influence, purchase and consumption in distributed retail environments”, *Journal of Software*, 4, 365–373.

Russo, J.E. 2011. Eye fixations as a process trace. In Schulte-Mecklenberg, M., Kuhberger, A. and Ranyard, R. (Ed.), *Handbook of Process Tracing Methods for Decision Research*. Psychology Press, NY, 43–64.

Want, R. and Schillit, B.N. (2012), “Interactive digital signage”, *Computer*, 45, 21–24.

Wedel, M. and Pieters, R., (2008), "A review of eye-tracking research in marketing", In Malhotra, N.K. (Ed.), *Review of Marketing Research* 4. M.E. Sharpe, Armonk, NY, 123–147.

Wickens, C. D. (1991), "Processing resources and attention", In Damos, D. (Ed.), *Multiple-task performance*. Taylor & Francis, London, 3–34.

# SERVICE CO-CREATION BETWEEN BUSINESSES AND NON-PROFIT ACTORS

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## ABSTRACT

In this paper we propose to identify the antecedents of public and private organizations that lead to commitment to a service co-creation. The context of our research deals with the creation of a Multi- Shared-Service Center to companies and employees of the Pole 45 business area located in central France. The goal of the project is to duplicate this service center to other French business parks. Thus, researches on profit and non-profit organizations' antecedents of commitment are needed to complete knowledge in management for this kind of inedited project on the French territory.

## CONTEXT OF THE STUDY

In a complex global economy due to the range of goods and services available, a growing number of companies like Procter & Gamble, Reebok, Ikea or BMW decide to involve their customers into the creation and production of their offerings. This approach where the customer takes part of the product or service creation is called "Co-creation" (Prahalad and Ramaswamy, 2000).

Research conducted by Etgar (2008), Füller (2010) or Hoyer & al. (2010) underlined the main drivers and barriers customers face to commit to a co-creation project. However, Hoyer & al. (2010) have pointed out the lack of empirical research in B2B co-creation in the service sector. In addition, up to date, no studies on service co-creation between private and public actors have been carried out on the antecedents of commitment. Co-creation in complex service ecosystems that gather non-profits and business organizations is also booming. The success of the eco-industrial park of Kalundborg (Denmark) or the common management of energy of SMEs and SMLs in the city of Deux-Synthe (France) show that projects of service sharing attract private and public sectors. However, people have to learn how to collaborate altogether in spite of their differences of objectives and organizational structures.

The context of this study deals with the creation of Multi Shared-Service Centre in the Pole 45 business area located in central France. The goal of the project is to offer services to companies and employees of the activity zone like a laundry service, a postal service, or a child care,. This co-creation case is atypical because the stakeholders who take part in the project (companies and public organisms) are both providers and potential users of co-created services. Our research focuses on the antecedents of stakeholders to commit to this co-creation project of new services.

## METHODOLOGY

We lead a qualitative study of semi-structured interviews with seven partners (three companies and four people from the public sector) from April to Mai 2012. These stakeholders had a dual role: providers and users of coming services which would be offered in the Multi- Shared-Service Center. We lead a thematic content analysis from verbatim of surveyed people. Then, from these findings and the categories found in the literature (Etgar, 2008; Nambisan and Baron, 2009; Füller, 2010 and Hoyer & al., 2010), we spread the results into four categories of antecedents that are economical, organizational, psychological and social.

## MAIN FINDINGS

Results showed that most of the drivers and barriers of commitment in a co-creation project of services are the same for non-profit and business actors. In the figure 1 below, we summarized the common drivers and barriers of public and private actors.

Figure 1: The drivers and barriers of private and public organizations to co-create services

	Drivers	Barriers
Economical	Return on investments Network of partners Business opportunities	Risky financial investments
Organizational	Acquisition of service design methodologies New collaborative experiences	Length of the project Intellectual property issues Difference of opinions and objectives
Psychological	Inter organizational trust Interesting meetings and people Share of values	Loss of legitimacy Lack of involvement from other partners and companies of the business area
Social	Reenergize the local economy Increase in the access of the zone Public and private collaborations	Lack of practical implications Outcome?

Indeed, this paper provides a theoretical framework of private and public actors' antecedents who commit to a co-creation project of shared services. Interviews with public and private actors enabled to list the main economical, organizational, psychological and social drivers and barriers

to commitment.

As for managerial implications, results provide guidance for businesses and non-profit organizations to improve management of collaborative projects of co-creation with distinct entities. By identifying the main benefits and sacrifices to service co-creation, service providers and public actors will be able to pre-empt any potential implications and take into account the objectives of each partner. Furthermore all respondents declared they had appreciated this private/public collaboration, an encouraging piece of information to replicate this type of projects to other business areas.

## LIMITS AND OPENINGS

The main limit of this paper is the size of the sample that may be too small to give an exhaustive categorization of drivers and barriers of commitment to service co-creation in this context. It would also be relevant to conduct a quantitative study on the main antecedents of commitment before making any generalizations to other French business parks.

## REFERENCES

- Etgar, M., (2008), "A descriptive model of consumer co-production process", *Journal of the Academy of Marketing Science*, 36(1) 97-108
- Füller, J., (2010), "Refining virtual co-creation from a consumer perspective", *California Management Review*, 52(2) 98-123
- Hoyer, W.D., Chety, R., Dorotic, M., Krafft, M., and Singh, S.S., (2010), "Consumer Cocreation in New Product Development", *Journal of Service Research*, 13(3) 283-296
- Nambisan, S., and Baron, R.A., (2009), "Virtual customer environments: testing a model of voluntary participation in value co-creation", *The Journal of Production Innovation and Management*, 26(4) 388-406.
- Prahalad, C.K., and Ramaswamy, V., (2000), "Co-opting customer competence", *Harvard Business Review*, 78(1) 79-87

# **SERVICE DESIGN: INTEGRATING SERVICE, PRACTICE AND DESIGN THINKING PERSPECTIVES**

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## **EXTENDED ABSTRACT**

This paper explores the importance and challenges of co-creation in new service design. It addresses the call for research on how design thinking and methods can be used to inform a more traditional and analytical approach to service development and design (Bitner in Ostrom et al., 2010), and it contributes to the theoretical and practical understanding of co-creation in service design. Moreover, the paper shows how design thinking activities can lead to next practices focused on experience environments rather than products and services.

A decade ago, Prahalad and Ramaswamy (2003, p.12) argued that, “the next practices of innovation must shift the focus away from products and services and onto experience environments – supported by a network of companies and consumer communities – to co-create unique value for individual customers”. More recently, other authors (Berry et al., 2006; Payne et al., 2008; Vargo and Lusch, 2004; 2008) have reinforced the need for firms to focus on service exchange and experience rather than goods and services. This perspective implies that value creation is inherently interactional and that “the customer is always a co-creator of value” (Vargo and Lusch, 2008, p. 7).

For firms adopting this shift in perspective, the requirements change, not only for how to view the outcome of the exchange, but also for how to involve users in the development process of these new experience environments where so called service exchange takes place (Korkman et al., 2010; Ostrom et al., 2010; Wetter Edman, 2011). While the extant marketing literature gives examples of firms that have adopted co-creation and useful insights into what needs to be addressed in order to achieve this shift, there is little direction on how the service/experience development process can be undertaken and relatively little is known about how customers and firms engage in co-creation (Payne et al., 2008).

More specifically, “descriptions of specific tools and methods of how to involve users in new service development are lacking” (Wetter Edman, 2011, p. 82). In saying this, a practice-based approach turns the attention towards the process aspects of usage and consumption rather than to the outcomes of the exchange of goods (Korkman et al., 2010, p. 236). This process driven approach is closely related to the more practical area of design thinking, which has evolved from being knowledge about objects and how to make them, towards knowledge about what people do with objects (Kimbell, 2009).

Arguably, there are clear links between the ‘new’ service logic and design thinking (c.f. Kimbell, 2009; 2011; Wetter Edman, 2009; 2011). The former emphasises a relational approach to marketing where the customers and

their experience should be the focus of marketing activities; whereas the latter puts the human experience in focus and provides processes (tools and activities) and a way of thinking useful for creating and maintaining relationships with customers in an experienced-based economy. Therefore, drawing upon an emerging body of marketing practice research, design thinking literature and a case study of Air New Zealand, this paper links the more practical perspective of design thinking with current marketing theory within the service dominant logic (SDL), more specifically focusing on practice theory. The paper (a) synthesises literature covering diverse concepts from research on marketing practice theory and design thinking and (b) draws upon an in-depth case study in order to illustrate challenges and opportunities for co-creation in service design.

The case study of Air New Zealand allowed us to explore how co-creation took place in a firm using design thinking techniques and tools. The case study included the activities taking place within the company's so called Design House. More specifically, three separate service design projects were studied over a four-year period: the first focused on redesigning the flight experience, the second one focused on redesigning the ground experience, and the third focused on the future use of mobile technology. The research design alternated observation with interview rounds and secondary material, such as company documents and publically available material. In addition, action research was carried out and the author's students worked together with Air New Zealand for about five months during the second and third projects.

In the context of this paper, we explore both words in 'design thinking'. I.e. design as encompassing the practical activities and tools linked to the process of design thinking; and thinking as encompassing the epistemological foundations and cognitive approaches of design thinking (c.f. Hassi and Laakso, 2011; Rylander, 2009). The process dimension includes using activities and tools such as observations, ethnography, early and fast prototyping, visualisation and interdisciplinary teams, and it emphasises the importance of working iteratively, combining abstract and concrete activities as well as divergent and convergent approaches (Brown, 2008; Jones and Samalionis, 2008; Kelley, 2001). The cognitive dimension provides a deeper understanding of how knowledge is created (Martin, 2009); it shows how it becomes important for firms (and individuals) to balance analytical and intuitive thinking as well as achieving both reliability and validity when exploring and exploiting within and across knowledge stages. Furthermore, it emphasises the importance of using abductive reasoning - the 'logic of what could be' (Bertilsson, 2004; Peirce, 1994) - and reflective practice (Schon, 1983) in order to achieve this balance.

The paper identifies challenges and opportunities for co-creation in new service design. It explores design thinking, its activities and cognitive approaches and it links this practical approach with a more theoretical marketing practice perspective. It shows how co-creation takes place within the human-centred design process, focusing on the dimensions of desirability, feasibility and viability. More specifically, the paper highlights the need for and the difficulties and challenges with thinking 'outside the box' and questioning current practices. It emphasises the importance of

paying attention to both artefacts and experiences, as well as working in iterations.

First, the paper shows how design thinking helps in understanding not 'just' the overall processual aspects of the market (c.f. Korkman et al., 2010) but also in identifying the key aspects that are of importance when developing new service(s). By identifying insights and so called opportunity areas and making 'logical leaps of the mind', design thinkers "live in Peirce's world of abduction; they actively look for new data points, challenge accepted explanations, and infer possible new worlds" (Martin, 2009, p. 65). The case of Air New Zealand illustrates how a company used a design thinking approach when focusing on experience environments was able to innovate (and create increased value) in both products and services.

Second, the paper highlights areas important to consider in terms of co-creation activities. In addition to creative ways of gaining customer insights and learning about so called customers' pain-points, the design team spent a considerable amount of the time prototyping their ideas using both actors and crew to gain feedback and new insights. However, rather than emphasising the importance of co-creating the final offering with active customers, design thinking emphasises the importance of understanding the customer's behaviour and interaction with the experience. The goal is to gain increased knowledge about the latent needs of the customer/consumer. Thus, co-creation seems to be implicit in the process rather than explicit.

## REFERENCES

Bertilsson, T. M., (2004), "The elementary forms of pragmatism: on different types of abduction", *European Journal of Social Theory*, 7(3) 371-389.

Berry, L. L., Shankar, V., Turner Parish, J., Cadwallader and Dotzel, T., (2006), "Creating new markets through service innovation", *MIT Sloan Management Review*, 47 (2) 56-63.

Brown, T., (2008), "Design Thinking", *Harvard Business Review*, June 85-92.

Hasse L. and Laakso, M., (2011), "Making sense of design thinking", in *IDBM (International Design Business Management) papers vol1.*, edited by Karjalainen, T-M. Koria, M. and Salimaki, M., Aalto University, Helsinki, 50-62.

Jones. M. and Samalionis, F., (2011), "From small ideas to radical service innovation", *Design Management Review*, 19(1) 20-27.

Kelley, T., (2001), *The Art of Innovation*, Doubleday (Random House): New York.

Kimbell, L., (2009), "Beyond design thinking: Design-as-practice and designs-in-practice", Paper presented at the CRESC Conference, Manchester, September 2009.

Kimbell, L., (2011), "Designing for service as one way of designing services", *International Journal of Design*, 5(2) 41-52.

Korkman, O., Storbacka, K. and Harald, B., (2010), "Practices as markets: value co-creation in e-invoicing", *Australasian Marketing Journal*, Vol. 18 (4) 236-247.

Martin, R., (2009), *The Design of Business – why design thinking is the next competitive advantage*, Harvard Business Press, Boston Massachusetts.

Ostrom, A.L., Bitner, M.J., Brown, S. W., Burkhard, K. A., Goul, M., Smith-Daniels, V., Demirkan, H. and Rabinovich, E., (2010), "Moving forward and making a difference: research priorities for the science of service", *Journal of Service Research*, 13 (4) 4-36.

Payne, A., Storbacka, K. and Frow, P., (2008), "Managing the co-creation of value", *Journal of the Academy of Marketing Science*, 36 (1) 83-96.

Peirce, C.S., (1994), *Collected Papers of Charles Sanders Peirce (1839-1914)*, Vols 1–6, ed. Charles Hartshorne and Paul Weiss. Cambridge, MA: Belknap Press of Harvard University. Electronic edition.

Prahalad, C.K. and Ramaswamy, V., (2003), "The new frontier of experience innovation", *MIT Sloan Management Review*, 44 (4) 12-18.

Rylander, A., (2009), "Design thinking as knowledge work: epistemological foundations and practical implications", *Design Management Journal*, 4(1) 7-19.

Schon, D.A., (1983), *The Reflective Practitioner – How professionals think in action*, Basic Books, New York.

Vargo, S.L. and Lusch, R.F., (2004), "Evolving to a new dominant logic for marketing", *Journal of Marketing*, 68 (1), 1-17.

Vargo, S.L. and Lusch, R.F., (2008), "Service-dominant logic: continuing the evolution", *Journal of the Academy of Marketing Science*, 36 (1), 1-10.

Wetter Edman, K., (2011), *Service Design – a conceptualisation of an emerging practice*, Licentiate Thesis, University of Gothenburg, Artmonitor, Gothenburg, Sweden. ISBN: 978-91-978477-7-3

Wetter Edman, K., (2009), *Exploring overlaps and differences in service dominant logic and design thinking*, First Nordic Conference on Service Design and Service Innovation, Oslo, November, 2009.

# **SERVICE EMPLOYEES AS BRAND AMBASSADORS: THE INFLUENCE OF SERVICE EMPLOYEES' BRANDING BEHAVIORS ON BRAND PERCEPTIONS AND OUTCOMES**

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## **ABSTRACT**

Frontline employee performance plays a critical role in the development and success of a service brand because customers' perceptions of a service brand rely heavily on the behavior of service personnel. However, research on the impact of employee behaviors on service brand perceptions still remains empirically sparse. Dyadic survey data collected from 360 customer-employee pairs in various service industries was examined through structural equation modeling. Results showed that employees' brand building behaviors (brand-fit and brand-communication behaviors) and service behaviors (courteous and customer-oriented behaviors) positively drive customer brand satisfaction and loyalty through the mediation of brand affect and brand image.

## **INTRODUCTION**

In an era of rapid development and growth of service industries, both researchers and practitioners have recognized that employee performance plays a critical role in the success of a service brand (Berry 2000; Brakus et al. 2009; Keller 2001; O'Cass and Grace 2004). Indeed, customers' perceptions of a service brand often depend on the behavior of frontline employees (Berry 2000; Keller 2001; Morhart et al. 2009; O'Cass and Grace 2003). Therefore, the role of frontline employees in ensuring organizational brand perceptions and outcomes is of particular importance for service firms (Berry 2000; O'Cass and Grace 2003).

Despite the increasing emphasis on the role of frontline employees in shaping brand perception and outcomes in the service context, empirical research remains to be explored. To fill this research gap, we developed a theoretical framework to explore the effects of employees' service-delivery and brand-building behaviors on brand perceptions and outcomes. Dyadic survey data collected from 360 customer-employee pairs in various apparel retailers was examined through structural equation modeling (SEM).

## **BACKGROUND**

Service employee performance plays an important role in the development and success of a service brand (Berry 2000; O'Cass and Grace 2003) because customers' perceptions of the brand rely heavily on the behavior of service personnel. For instance, Southwest Airlines employees have established and reinforced the firm's brand image as a fun and upbeat organization that is happy to go extra miles to ensure customer satisfaction (Freiberg and Freiberg 1996). Similarly, it has been argued that the success of Starbucks rests on creating a unique brand

experience for customers (Michelli 2007).

Marketing practitioners have come to realize that understanding how consumers experience brand is critical for developing marketing strategies to service firms (Brakus et al. 2009). Previous research had explored on the determinants of the brand perceptions and further indicates that frontline employees play a vital role in shaping brand perceptions and outcomes (Chernatony and Cottam 2009; Gabbott and Hogg 1994; McDonald et al. 2001). In spite of such acknowledgements from scholars and practitioners, research attempts exploring the impact of employee behaviors on service brand perceptions remain empirically scarce. Therefore, this study aims to fill this research gap, developing and testing an empirical model that focuses on the effects of employees behaviors on brand affect, image, satisfaction and loyalty.

Based on previous literature on the employee behaviors during service encounters, we propose two important employee behaviors that can influence customers' brand perceptions: employees' service delivery behaviors and brand-building behaviors. Employees' service delivery behaviors include both courteous behavior and customer-oriented behavior, while employee brand-building behaviors include employee brand-fit behavior and employee brand communication behavior. These behaviors are proposed to enhance the level of brand affect and brand image, which in turn affect customer satisfaction and loyalty intentions.

## METHOD

To test the conceptual model and hypothesized relationships, an empirical study was conducted. Data were collected from two sources: (1) survey data from service employees; and (2) customer data collected from exit interviews. A random sample of apparel retailers were selected for this study. Twenty research assistants were recruited and collected information on employee service-delivery and brand-building behaviors from employees as well as soliciting opinions from customers. A team of two assistants visited each store during regular business hours, randomly selecting customers and time frames based on a sampling schedule. Upon the customer exiting the store, one assistant invited him or her to fill out a questionnaire concerning courteous behaviors, customer-oriented behaviors and brand affect, brand image, customer satisfaction and loyalty intention. Simultaneously, the remaining assistant invited the specific service employee to rate his/her brand-fit behaviors and brand communication behaviors during the preceding service encounter. The dyadic sample collection process design reduces the probability of common method bias. The final sample included 360 pairs of employees and customers. Of the 360 service employees, 67.8 percent were female and 75.3 percent were full-time employees. Of the 360 customers, 34.6 percent were male, and the overall sample age ranged from 17 to 65.

Multi-item scales from prior research were adopted for this study. Items representing employee brand-fit behaviors were adopted from Morhart et al. (2009). Employee brand communication behavior was modified from Arnett et al. (2003) and Morhart et al. (2009) to measure employee

convey positive aspects of the brand to a customer. Our measure for courteous behavior was based on three items from Liljander and Mattsson (2002). Service providers' customer orientation was measured with five indicators from Srinivasan et al. (2002). Brand affect was adopted from Chaudhuri and Holbrook (2001) to measure the three similarly rated items: good, happy and pleasant. We measure brand image with three items from Keller (1993). Customer satisfaction was measured with the three-item scale developed by Fornell et al. (1996). Customer loyalty intention was adopted from Brauks et al. (2009) to capture customer loyalty intention. A questionnaire was next constructed and pre-tested three times to ensure that questions were understood as intended and to assess the feasibility of the survey approach. Survey participants responded to seven-point Likert scales anchored at "strongly agree" (7) and "strongly disagree" (1).

## RESULTS

A 28-item confirmatory factor analysis (CFA) was employed. Results suggested a good fit overall ( $\chi^2 = 689.56$ ,  $df = 314$ ,  $RMSEA = 0.058$ ,  $GFI = 0.88$ ,  $NFI = 0.97$ ,  $IFI = 0.98$ ,  $CFI = 0.98$ ). We evaluated reliability by means of the coefficient alpha and composite reliability (CR) (Chin 1998; Fornell and Larcker 1981). For all measures, the coefficient alpha and CR were well above the cut-off value of 0.70, exhibiting satisfactory reliability. All factor loadings for the total measurement model were significant (with all t values at  $p < 0.01$  level) (Anderson and Gerbing 1988), demonstrating convergent validity. In addition, the average extracted variances (AVE) for each factor were all above 0.50 (ranging from 0.53 to 0.82), further supporting convergent validity (Fornell and Larcker 1981). A  $\chi^2$  test (with one degree of freedom while constraining each path to 1.0 versus the same path unrestrained) provides evidence of discriminant validity (Anderson and Gerbing 1988). Next, all cross-construct correlations were significantly less than 1.0 (Bagozzi and Heatherton 1994), tested via the confidence interval for each pairwise correlation estimate ( $\pm 2$  standard errors) not including the value of one, providing further evidence of discriminant validity.

These results demonstrated that the measures possessed adequate construct validity. After confirming the total measurement model, the structural model was estimated (see table 1). The overall fit statistics ( $\chi^2 = 602.14$ ,  $df = 310$ ,  $RMSEA = 0.051$ ,  $GFI = 0.90$ ,  $NFI = 0.97$ ,  $IFI = 0.99$ ,  $CFI = 0.99$ ) indicated an acceptable level of fit between the hypothesized model and the data. Estimated structural coefficients were next examined to evaluate individual hypotheses. Brand-fit behaviors ( $\gamma_{11} = 0.32$ ,  $p < 0.01$ ) and brand-communication behaviors ( $\gamma_{12} = 0.19$ ,  $p < 0.01$ ) have a significant, positive impact on brand affect. Brand-fit behaviors were also positively related to brand image ( $\gamma_{21} = 0.18$ ,  $p < 0.05$ ). In addition, brand communication behaviors have a positive relationship with brand image ( $\gamma_{22} = 0.17$ ,  $p < 0.05$ ). Courteous behaviors ( $\gamma_{13} = 0.14$ ,  $p < 0.01$ ) and customer-oriented behaviors ( $\gamma_{14} = 0.41$ ,  $p < 0.01$ ) were positively related to brand affect. Courteous behaviors have positive influence on brand image ( $\gamma_{23} = 0.25$ ,  $p < 0.01$ ). As we expected, the link between customer-oriented behaviors and brand image is positive and statistically

significant ( $\gamma_{24} = 0.20, p < 0.05$ ). Results also supported that brand affect significantly influences brand image ( $\beta_{21} = 0.23, p < 0.05$ ), customer satisfaction ( $\beta_{31} = 0.71, p < 0.01$ ), and loyalty intentions ( $\beta_{41} = 0.23, p < 0.05$ ) in a positive direction. Brand image was also positively related to customer satisfaction ( $\beta_{32} = 0.31, p < 0.05$ ) and loyalty intentions ( $\beta_{42} = 0.12, p < 0.05$ ). Results also support a relationship between Customer satisfaction and loyalty intentions ( $\beta_{43} = 0.12, p < 0.05$ ).

Table 1: Path estimates for proposed model

Relationship	Completely standardized coefficient	t-value
H1: Brand-fit behaviors → brand affect	0.32( $\gamma_{11}$ )***	4.70
H2: Brand-communication behaviors → brand affect	0.19( $\gamma_{12}$ )***	2.66
H3: Brand-fit behaviors → brand image	0.18( $\gamma_{21}$ )**	2.23
H4: Brand-communication behaviors → brand image	0.17( $\gamma_{22}$ )**	1.96
H5: Courteous behaviors → brand affect	0.14( $\gamma_{13}$ )***	2.36
H6: Customer-oriented behaviors → brand affect	0.41( $\gamma_{14}$ )***	3.47
H7: Courteous behaviors → brand image	0.25( $\gamma_{23}$ )***	5.11
H8: Customer-oriented behaviors → brand image	0.20( $\gamma_{24}$ )**	1.97
H9: Brand affect → brand image	0.23( $\beta_{21}$ )**	2.02
H10: Brand affect → customer satisfaction	0.71( $\beta_{31}$ )***	9.17
H11: Brand affect → loyalty intentions	0.23( $\beta_{41}$ )**	2.21
H12: Brand image → customer satisfaction	0.31( $\beta_{32}$ )***	5.57
H13: Brand image → loyalty intentions	0.12( $\beta_{42}$ )**	2.06
H14: Customer satisfaction → loyalty intentions	0.53( $\beta_{43}$ )***	4.09

## DISCUSSION

The purpose of this study was to develop and empirically test a conceptual model of how employee behaviors, including employee brand-building behaviors and service delivery behaviors, influence

customers' brand perceptions in service settings. Results showed that employee' brand building behaviors (brand-fit behavior and brand communication behavior) and service behaviors (courteous behavior and customer-orientated behavior) positively drive customer brand satisfaction and loyalty through the mediation of brand affect and brand image.

Our findings offer important implications for both service marketers and brand managers. Frontline employees play a vital role in shaping brand perceptions and service brand outcomes. Thus, it is important for managers to ensure that frontline employees can internalize the firm's brand value through training and motivation to shape appropriate and consistent brand-building behaviors. In addition, it requires increased managerial emphasis on identifying and hiring talented and qualified frontline employees as well as training and motivating them to engage in courteous behaviors and customer-oriented behaviors. Furthermore, we also confirm that brand affect during service encounters plays a crucial role in shaping brand outcomes. Hence, service firm will benefit from focusing their attention on increasing positive brand affect through employee behaviors.

## REFERENCES

- Anderson, J. C., and Gerbing, D. W., (1988), "structural equation modeling in practice: a review and recommended two-step approach", *Psychological Bulletin*, 103 (3), 347-362
- Arnett, D. B., German, S. D., and Hunt, S. D., (2003), "The identity salience model of relationship marketing success: the case of nonprofit marketing", *Journal of Marketing*, 67 (2), 89-105
- Berry, L. L., (2000), "Cultivating service brand equity", *Journal of Academy of Marketing Science*, 28 (1), 128-137
- Brakus, J. J., Schmitt, B. H., and Zarantonello, L., (2009), "Brand experience: what is it? how is it measured? does it affect loyalty?", *Journal of Marketing*, 73 (3), 52-68
- Chaudhuri, A., and Holbrook, M. B., (2001) "The chain of effects from brand trust and brand affect to brand performance: the role of brand loyalty", *Journal of Marketing*, 65 (2), 81-93
- Chin, W. W., (1998), The partial least squares approach for structural equation Modeling, In G. A. Marcoulides (Ed.), *Modern methods for business research*, Mahwah, NJ
- de Chernatony, L., and Cottam, S., (2009), "Interacting contributions of different departments to brand success", *Journal of Business Research*, 62, 297-304
- Fornell, C., and Larcker, D. F., (1981), "Evaluating structural equation models with unobservable variables and measurement error," *Journal*

of Marketing Research, 18 (1), 39-50

Fornell, C., Johnson, M. D., Anderson, E. W., Cha, J., and Bryant, B. E., (1996). "The American customer satisfaction index: nature, purpose, and findings", *Journal of Marketing*, 60 (4), 7-18

Freiberg, K., and Freiberg, J., (1996), *Nuts! Southwest Airlines crazy recipe for business and personal success*, Bard Press, Austin, TX

Gabbott, M., and Hogg, G., (1994), "Consumer behaviour and services: a review", *Journal of Marketing Management*, 10, 311-324

Keller, K. L., (2001), "Building customer-based brand equity", *Marketing Management*, 10 (2), 14-19

Keller, K. L., (1993), "Conceptualizing, measuring and managing customer-based brand equity," *Journal of Marketing*, 57 (1), 1-22

Liljander, V., and Mattsson, J., (2002), "Impact of customer preconsumption mood on the evaluation of employee behavior in service encounters", *Psychology & Marketing*, 19 (10), 837-860

McDonald, M. H. B., de Chernatony, L., and Harris, F., (2001), "Corporate marketing and service brands - moving beyond the fast-moving consumer goods model", *European Journal of Marketing*, 35 (3/4), 335-352

Michelli, J. A., (2007), *The Starbucks Experience: 5 Principles for Turning Ordinary into Extraordinary*, McGraw Hill,

Morhart, F. M., Herzog, W., and Tomczak, T., (2009), "Brand-specific leadership: turning employees into brand champions", *Journal of Marketing*, 73, 122-142

O'Cass, A., and Grace, D., (2003), "An exploratory perspective of service brand associations", *The Journal of Services Marketing*, 17 (4/5), 452-473

O'Cass, A., and Grace, D., (2004), "Exploring consumer experiences with a service brand," *Journal of Product and Brand Management*, 13 (4), 257-268

Srinivasan, S. S., Anderson, R., and Ponnavaolu, K., (2002), "Customer loyalty in e-commerce: an exploration of its antecedents and consequences," *Journal of Retailing*, 78 (1), 41-50

## SERVICE INFUSION IN PRODUCT-ORIENTED COMPANIES

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### ABSTRACT

Service infusion in product-oriented companies has become one of the most dynamic areas in service research. Research has created different notions (e.g., hybrid offerings, solution providers, transition from products to services, system suppliers, product-service systems, servitization), which propose that traditional product-oriented firms shift from designing, manufacturing, and selling products towards innovating, selling, and delivering services. The products and services are combined into customer-specific solutions. Considering such customer-specific solutions, the value contribution in terms of revenue, profit, and customer satisfaction are increasingly attributed to services.

Since 2008, articles concerning service infusion have been published in management journals at a rate of more than 50 per year. The research intensity and the evident business interest suggest that the domain is in the early development stage, when the domain is complex, and when it is rapidly changing. Its relative immaturity as a research domain, the complexity of the research questions, the interdisciplinary research community and the pace at which knowledge is accumulated all exacerbate a considerable research challenge.

In this article, we take on this challenge by employing bibliographic techniques to explore the way in which the literature on service infusion has been evolving and taking shape. Techniques, such as co-citation analysis, bring a level of objectivity to the task and reduce the bias inherent in traditional literature reviews.

We retrieved articles from the Scopus research database with titles, abstracts, or keywords containing expressions related to the “service infusion”. We also tracked the citations of the seminal articles in the research field. Our inquiry leads to 530 articles, which analyzed by descriptive, citation, and co-citation techniques.

Key findings suggest that empirical, mostly case study research drives the evolution of the research domain. Little emphasis is on theoretical contributions and deeper theoretical understanding of the service infusion. Empirical papers also show a strong bias on the investigated case studies. Most of the case studies are from multinational enterprises (MNEs). Few contributions look into SMEs. Most contributions report successful cases, but the underlying argument is that most firms actually fail to achieve service growth. More research on service infusion failures is recommended. Furthermore, there are few theoretical misconceptions. For example, the literature proposes an extension of the service offering, which, in turn, would lead to a higher vertical integration and extending the boundary of the firm. Vertical integration and boundary of the firm

would have strong explanatory power for describing the service infusion, but existing literature does not explore these theoretical alternatives. Additionally, most articles consider the service infusion as a single firm effort. In business practice, networks of product manufacturers and service specialists provide solutions. Finally, service infusion is conceptualized as an organic, or internal growth strategy. In business practice, at least 50% of the service growth in MNEs such as GE, IBM, or Siemens comes from merger & acquisitions. Research still neglects this strategic option.

Our analysis of the research domain provides not only insights into previous evolution and its current structure. It also defines a future research agenda, which offers more suitable theoretical perspectives and aligns the research with the actual business challenges.

Key words: Service infusion, bibliographic methods, research agenda, service development.

# SERVICE INNOVATION AND NEW SERVICE DEVELOPMENT - AN ANALYSIS OF RESEARCH 1986-2012

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## EXTENDED ABSTRACT

This study examines the state of the art in service innovation and new service development (NSD) research published in the period between 1986, when the first article appeared in a leading academic marketing and innovation journal, and 2012. A multisource search led to the identification of 178 service innovation and NSD-related articles. The search was made in 24 ISI-ranked academic journals, primarily leading marketing, innovation, and service management journals. Then, a content analysis was performed of the articles using multiple classifier variables with regard to research topic, perspective on service innovation and/or NSD, research methodology, and general publication characteristics. Furthermore, a comparison of views and definitions of the two concepts service innovation and NSD was made.

Service innovation and NSD research has emerged as a vital, multifaceted research discipline. It appears that whereas NSD is a relatively well-defined concept, the service innovation concept has been broadened, particularly during the last decade during. By clustering prior research into three evolutionary phases – formation, maturity, and multidisciplinary phase – the examination of the results reveal that the focus of service innovation and NSD research has shifted throughout its evolutionary pattern: Initially, the offering itself was the primary focus of research and the view of service innovation has was that of a complement of traditional product innovation in the formation phase. Next, it moved on to involve the customer and form the organization in the maturity phase. Finally, the multidimensional phase featured a much more diversified pattern, emphasizing the linkages between service innovation and business strategy, and entailing several functions, both within and outside the firm. As the field continues to diversify and the service innovation concept becomes all-encompassing, identifying the exact loci of service innovation research becomes more difficult. In addition, underresearched service innovation areas were identified, which leads to several promising future research directions.

In this study the previous literature review that examined journal articles between 1986 and 2010, is complemented by adding articles from 2011 and 2012. This further strengthens the illustration of service innovation as an expanding field with no exact loci. It is still a trend that the publication focus is in the service journals, and still the subject is weak represented in the leading marketing journals. In 2011 the annual number of publications was 28, and for 2012 the number was 27.

During 2011 and 2012 one new topic that surfaces is service innovation in emerging economies (e.g., Alam, 2011a; Alam, 2011b; Alam, 2012; Wooder, Baker, and Gynane). By comparing a developed country with a developing country Alam (2011b) explores differences and similarities in

the process of new service development. For example idea generation and formation of cross-functional team were considerably more rigorous in the developed country while for example the business analysis (profit and return on investment analysis for the innovation) appeared more rigorously in the developing country.

One other emerging topic that attracts increasing attention is customer involvement, emphasizing value co-creation. Previously, customer involvement has typically been connected with involving the customer in the provider's business to help develop new market offerings. However, Edvardsson, Kristensson, Magnusson, and Sundström (2012) contribute with new insights concerning methods for involving customers in co-creative development processes. The focus is not on the service or product per se, instead the value creating process and the customer experience are emphasized. In a similar way, Ordanini and Parasuraman (2011), Helkkula, Kelleher, and Pihlström (2012) and Tuunanen and Cassab (2011) address service innovation from a service dominant perspective by analyzing value co-creation aspects. According to Tuunanen and Cassab (2011) customer involvement in new service development typically has been focusing on the customer involvement in various stages of the provider processes, and not enough considering the customer as a co-producer.

To sum up; service innovation as a field is expanding and the dominating perspective is shifting from demarcation to synthesis even though demarcation still makes important contributions to research (den Hertog, Gallouj, & Segers, 2011; Papastathopoulou & Hultink, 2012; Schleimer & Shulman, 2011). Researcher with a synthesis perspective clearly positioning service innovation as multidimensional and multidisciplinary topic, emphasizing customer co-creation aspects (Rubalcaba et al., 2012). This evolution makes it increasingly important to look at mechanisms of service innovation (value co-creation, customer interaction, methods and processes, strategy) and hence leaving the discussion of what separates services from products.

## REFERENCES

Alam, I., (2011a), "Process of customer interaction during new service development in an emerging country", *Service Industries Journal*, 31 (16) 2741-2756

Alam, I., (2011b), "Exploring cross-national differences in service innovation process and strategy in developing and developed nations", *Journal of Service Management*, 22 (5) 586-606

Alam, I., (2012), "New service development in India's business-to-business financial services sector", *Journal of Business & Industrial Marketing*, 27 (3) 228-241

Den Hertog, P., Gallouj, F., and Segers, J., (2011), "Measuring innovation in a 'low-tech' service industry: The case of the Dutch hospitality industry", *Service Industries Journal*, 31 (9) 1429-1449

Edvardsson, B. Kristensson, P., Magnusson, P., and Sundström, E., (2012), "Customer integration within service development: A review of methods and an analysis of insitu and exsitu contributions", *Technovation*, 32, 419-429

Helkkula, A., Kelleher, C., and Pihlström, M., (2012), "Characterizing value as an experience: Implications for service researchers and managers", *Journal of Service Research*, 15 (1) 59-75

Ordanini, A., and Parasuraman, A., (2011), "Service innovation viewed through a service-dominant logic lens: A conceptual framework and empirical analysis", *Journal of Service Research*, 14 (1) 3-23

Papastathopoulou, P., and Hultink, E.J., (2012), "New service development: An analysis of 27 years of research", *Journal of Product Innovation Management*, 29 (5) 705-714

Rubalcaba, L., Michel, S., Sundbo, J., Brown, S.W., and Reynoso, J., (2012), "Shaping, organizing, and rethinking service innovation: A multidimensional framework", *Journal of Service Management*, 23 (5) 696-715

Schleimer, S.C., and Shulman, A.D., (2011), "A comparison of new service versus new product development: Configurations of collaborative intensity as predictors of performance", *Journal of Product Innovation Management*, 28 (4) 521-535

Tuunanen, T., and Cassab, H., (2011), "Service process modularization: Reuse versus variation in service extensions", *Journal of Service Research*, 14 (3) 340-354

Wooder, S., Baker, S., and Gynane, C., (2012), "Extracting key lessons in service innovation", *Journal of Product Innovation Management*, 29 (1) 13-20

# **SERVICE INNOVATION NETWORKS- EXTERNAL ACTORS AND INNOVATION CONTRIBUTIONS**

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## **ABSTRACT**

Although innovation networks have been studied extensively in a manufacturing context, little is known of them in a service setting. Especially research on who these external actors are and their contribution to service innovation remains scarce. Consequently, this paper conceptualises these actors as suppliers, distributors, external resources, authority and general public and media. Furthermore, it presents a framework, which shows that these actors contribute in many ways during different stages of the service innovation process.

## **INTRODUCTION**

During the last decade, several scholars (Green, Howells and Miles 2001; Edvardsson et al. 2012) have characterized service innovation as highly interactive and prone to collaboration. In line with this, a rising dialogue on service innovation networks has emerged (de Vries 2006; Mele et al. 2010). Based on this network perspective, the service firm is no longer considered isolated. Rather, it's seen as part of an interactive system, where different actors contribute to service innovation in a myriad of ways.

Despite this, research relating to service innovation networks and especially its external actors remains scant. In past literature, scholars have put some emphasis on customers and their role in innovation networks (Alam and Perry 2002), but other external actors have received very little attention (Greenley and Foxall 1998). Consequently, there is a lack in conceptualization pertaining to who these other actors are and how they contribute to the innovation process.

Based on this, this paper aims at answering the following research questions: 1) Which actors, besides customers, are found in the external environment of a service firm's innovation network? 2) How do they contribute to service innovation? Investigating this further will strengthen the literature with a more thorough conceptual framework of external actors and their innovation contributions. Furthermore, it will demonstrate the benefits of applying a network approach to service innovation.

The remainder of the paper is outlined as follows. First, we shortly review service innovation networks. Thereafter, we examine the external actors and how they contribute to service innovation. Finally, we discuss and propose new research directions and implications.

## **SERVICE INNOVATION NETWORKS**

Both practitioners and scholars (Kandampully 2002; Rycroft and Kash 2004) have discussed the network approach to innovation in various

settings. Previously, this approach was mostly considered belonging to the field of manufacturing (Brass et al. 2004), but in recent years it has also been applied to the service context. Since services are often depicted as process-oriented and interactive, several scholars (Syson and Perks 2004; Kandampully 2002) argue that this approach is, in fact, very beneficial for the service firm's innovation practices.

A network per se is often described as nodes and relationships connected to each other (Rogers and Kincaid 1981). Based on this, a service innovation network consists of different actors and their relationships to each other within the service firm's environment. According to Kandampully (2002) and Syson and Perks (2004), these relationship-networks aid the firm in overcoming difficulties embedded within the innovation process.

The benefits of cooperating with various actors are many. Previous research has shown that it encourages creativity, increases flexibility and productive information flows and makes idea exchanges possible (Lorenzoni and Baden-Fuller 1995). The network approach also makes it easier to find and develop new relationships, which could potentially contribute to the firm's service innovation practices in the future (Syson and Perks 2004). The firm has to bear in mind though, that with a wider network of actors, challenges also increase (Noori and Lee 2004). Thus, it's important to choose wisely which actors to cooperate with.

The innovation network consists of actors (Kandampully 2002) cooperating on either an internal or external level. Internal actors are located within the firm and consist of managers, employees and leaders (Kandampully 2002), whereas external actors are found outside the company and include such as suppliers, competitors and customers. According to a study conducted by Jenssen and Nybakk (2009) especially external actors are important in innovating new service offerings, particularly in smaller firms that are knowledge intensive. There is, however, a lack of a collective discussion on all these external actors. Next, we review research on external actors in service innovation networks.

## EXTERNAL ACTORS IN SERVICE INNOVATION NETWORKS

In order to examine who the external actors in service innovation networks are, we conducted a literature search on peer-reviewed articles. Table 1 summarizes the selected studies and their main findings.

The search resulted in six published empirical studies. The articles are written within different theoretical frameworks, including interactions, resource integration, stakeholder theory and the SD-logic perspective. The types of external actors presented in the studies are similar. However, none of the articles discuss all different actors. For instance, Syson and Perks (2004) talk about suppliers, distributors and competitors, whereas Smith and Fischbacher (2005) emphasize legal services, customers and health authority. All the studies place one company in the centre of the innovation network.

Table 1 Overview of the empirical studies included in analysis

Article	Context and theoretical approach	Stakeholders	Results
<b>Syson and Perks (2004)</b>	ARA-framework applied to a case study of a building society	Suppliers, distributors, competitors	Interactions are the key element of networks; networks are more suitable for radical innovation.
<b>Smith and Fischbacher (2005)</b>	Two financial services and two medical services companies studied from the stakeholder theory perspective	Legal services, intermediaries, customers, design companies, town planners, health authority, general public, external agency (academic)	Services are an amalgam of stakeholder interests. Customers are dormant stakeholders whose interests are represented by other stakeholders.
<b>De Vries (2006)</b>	Gallouj and Weinstein (1997) model modified and empirical data from case studies (insurance, social security, IT,	Suppliers, distributors	Different network partners are connected to each other and integrated both their competencies and technology to

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	professional training and telecom industries)		service innovation.
<b>Mele, Spena and Colurcio (2010)</b>	Packaging company studied from the SD-logic perspective	Customers (in B2B context), suppliers, research centre, consultants, social and ethical stakeholders, distributors	Customers and other stakeholders become real co-innovators who exchange and integrate resources in order to co-create value.
<b>Mele, Spena and Colurcio (2011)</b>	Companies from motor, food and cosmetics industries studied from the SD-logic perspective	Vertical (suppliers and customers), horizontal (competitors) and transverse (research centers, universities, other innovative firms) relationships	Service innovation is an open process where different stakeholders integrate their resources and become co-innovators and co-producers of value.
<b>Perks, Gruber and Edvardsson (2012)</b>	Network of a car insurance company studied from the SD-logic perspective	Installation company, supplier companies, distributors, intermediaries (media and police force)	Co-creation is a multi-faceted process; innovation can be independent initiated by network actors or initiated and driven by lead user innovation activity.

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Based on these studies, we conclude that the main external actors in service innovation are suppliers, distributors, different entities providing external know-how or resources, authority, general public and media. Interestingly, although some authors (Syson and Perks 2004; Mele et al. 2010) have mentioned competitors as important actors in a firm's innovation network, there is no empirical evidence supporting this. Thus, competitors are not included in our presentation of the main external actors. Neither are customers included to our analysis since our paper concentrates on the other external actors.

When new service offerings are developed within a network of external actors, it's also important to not only conceptualise who they are but also how they contribute to the innovation process. The next section further examines this.

## HOW EXTERNAL ACTORS CONTRIBUTE TO SERVICE INNOVATION

Different external actors can be involved in the process of service innovation in many ways. In Table 2 we have summarized the main types of external actors in the service innovation network and their contribution to the process. The table also presents at what stage of the innovation process they contribute.

Table 2 External actors and their innovation contributions

<b>Actor</b>	<b>Contribution to the innovation process</b>	<b>Stage of the innovation process</b>
Suppliers	Idea generation, conceptualising new ideas, concept design, providers of knowledge and experience, collaboration with their own suppliers	Initial stages: transformation of ideas to services
Distributors	Knowledge about and contact with the end user, idea providers, help with marketing strategies, achieving good selling points, help at the launch stage	Initial stages: idea generation Final stages: launch
External resources	Know-how, knowledge, skills, resources, new competencies	Middle stages: service design
Authority	Information, knowledge	Mostly initial stages
General public and media	Information, help at the launch stage	Both initial and final stages

Suppliers are considered one of the most important groups of external actors. Consequently, there tends to be a strong relationship between them and the innovating company. This gives both parties the opportunity to establish a mutual understanding of customers' needs and subsequently look for new solutions together (Syson and Perks 2004; Mele et al. 2010). Suppliers can be the providers of necessary resources for the new service and these can be tangible like technological equipment (Mele et al. 2010) or intangible like knowledge or data (de Vries 2006; Smith and Fischbacher 2005). Moreover, suppliers often possess the necessary know-how for transforming the ideas into actual services (Syson and Perks 2004; Mele et al. 2011) and can also cooperate with their own suppliers and partners (Perks et al. 2012). Because of their knowledge and experience, suppliers are often involved at initial stages like idea conceptualization (Mele et al. 2010) or concept design (de Vries 2006).

Distributors of a new service may be agents or the ones selling the service to the end-user (Syson and Perks, 2004). In other cases distributors are the ones who actually deliver the final service to the customer (Smith and Fischbacher 2005; de Vries 2006). Most of the innovating companies collaborate with their distributors with the aim of getting to know their customers better. Distributors were often the ones having more direct contact with the end-user (Syson and Perks 2004; Mele et al. 2010). Moreover, distributors are seen as good idea providers when working out marketing strategies (Mele et al. 2011). Mostly they are more interested in involvement at the launch stage, since this is the part they could benefit the most from. For the firm itself, the direct benefit from involving distributors to the service innovation process is increased sales and more in-depth knowledge of the new service concept among agents (Syson and Perks, 2004).

Besides suppliers and distributors, companies engage a multitude of other external actors in their innovation process. Collaboration with different institutes for lab-tests, R&D and academic knowledge is often mentioned (Mele et al. 2010; Mele et al. 2011). Some companies also use the services of external marketing agencies and design companies. Moreover, coaching and HR-skills training can be added as external resources to the service innovation process (de Vries 2006). In some cases, the innovating company has to look for new external partners in order to acquire new competencies, adding them to the final service offering (de Vries 2006; Perks et al. 2012).

Depending on the nature of the service, some service innovation processes also require legal consultation. For example, Smith and Fischbacher (2005) studied the cases of building a new hospital and planning a distribution network for a bank that required extensive consultation with health authority and town planners. These stakeholders usually provide necessary information about the requirements of the new service, but also represent their own interests that have to be considered. On some occasions, collaboration with authority can also go beyond mere information collecting. The police force, for example, had to develop a new protocol for responding to calls from the insurance company's new service users (Perks et al. 2012).

On some occasion's consultancy with social and ethical stakeholders and extended communication with media is needed (Mele et al. 2010), for instance when the service affects a wider public, such as hospitals. Smith and Fischbacher (2005) found, however, that even in such cases public opinion was taken into consideration much less than other stakeholder's opinions. Collaboration with public and media can also bring benefits at the launch stage.

## DISCUSSION

This literature study examined 1) which actors, besides customers, are found in the external environment of a service firm's innovation network and 2) how they contribute to service innovation. To our knowledge, it's

the first study that collectively summarizes these external actors and their contribution to service innovation.

Based on this study, we conceptualize the external actors in the service firm's innovation network as suppliers, distributors, customers, external resources, authority and general public and media. This shows that, there are a variety of actors in the service firm's environment that could potentially take part in innovation practices. The incorporated articles discuss these actors from different theoretical perspectives including interactions (Syson and Perks 2004), resource integration (de Vries 2006), stakeholder theory (Smith and Fischbacher 2005) and SD-logic (Mele et al. 2010; Mele et al. 2011; Perks et al. 2012). Depending on the theoretical approach, different actors are mentioned. This further exemplifies that, in previous literature there has not been a collective discussion on all external actors in a service innovation network. Consequently, our study contributes with a more in-depth overview of who these actors are.

Furthermore, we found that external actors contribute in a myriad of ways during different stages of the innovation process. Suppliers, for instance, are good at idea generation and are usually incorporated in the initial stages of the process (Mele et al. 2010). Distributors, on the other hand, often help with marketing strategies and selling during the launch stage of the new service offering (Mele et al. 2011). This shows that, not all external actors have to be present in every stage of the innovation process. Some actors may be more suitable to involve in the beginning of the process, whereas some actors are best utilized during the launch stage. Our presented framework on external actors' innovation contributions makes a contribution to the integrated literature on service innovation and networks.

The findings in this paper further demonstrate that there are several benefits of applying a network approach to service innovation. Relating to previous studies (Lorenzone and Baden-Fuller 1995), it does increase productive information flows and idea generation, encourages creativity and increases flexibility. Based on the sample studied in this paper (Syson and Perks 2004; Smith and Fischbacher 2005; de Vries 2006; Mele et al. 2010; Mele et al. 2011; Perks et al. 2012), it further helps with generating marketing strategies, providing external know-how and increasing sales.

Conclusively, we argue that service innovation networks can have a positive impact on the service firm (Kandampully 2002; Syson and Perks 2004). This also makes it an important topic to study further. In the next section we will further explain implications of this study as well as present potential future research directions.

## IMPLICATIONS AND FUTURE RESEARCH

Since our contribution is conceptual, it cannot be used as a managerial tool for managing service innovation networks. However, some implications can be drawn that may benefit managers as well.

Service innovation requires collaboration of many actors who contribute with their knowledge, experience and resources. Moreover, a company can choose collaboration partners from a multitude of external actors that

contribute best during different stages of the innovation process. Firstly, this implicates that managers can choose from a variety of different actors. Secondly, this means that managers should be very selective in choosing the right actors for different stages. By doing so, they might very well receive a competitive edge on the market.

Furthermore, our study also gives rise to several interesting research opportunities. First of all, the external actors in a firm's service innovation network may not be limited to the ones that were mentioned in our study. Further research could reveal more actors and more ways of contributing. There may also be branch specific external actors that were not mentioned in our study. Therefore, more research in different industries and contexts is also needed.

The type of innovation may also have an impact on deciding which actors to include in the process. Perks et al. (2012), for example, propose that there is a difference depending on whether the innovation is radical or incremental. Here, one could for instance examine which external actors are most beneficial during radical vs. incremental innovation processes.

Moreover, although competitors are seen as part of a firm's service innovation network (Syson and Perks 2004; Mele et al. 2010), there is no empirical evidence on how they contribute to the process. Even though we decided not to include them in our framework of external actors, we suggest more studies on the competitor-role in a service innovation context.

Lastly, we also want to point out that all the studies examined in this paper place one lead firm in the centre of the innovation network. There are, however, also other ways of looking at networks, for example joint innovation projects. Based on this, we call for more studies that don't position the lead firm in the centre of the innovation network.

## REFERENCES

- Alam, I. and Perry, C., (2002) "A customer-oriented new service development process", *Journal of Services Marketing*, 16 (6) 515-534
- Brass, D. J., Galaskiewicz, J., Greve, H. R., and Tsai, W., (2004), "Taking stock of networks and organizations: A multilevel perspective", *Academy of Management Journal*, 47 795-817
- de Vries, E., (2006), "Innovation in services in networks of organizations and in the distribution of services", *Research Policy*, 35 (7) 1037-1051
- Edvardsson, B., Kristensson, P., Magnusson, P. and Sundström, E., (2012), "Customer integration within service development - A review of methods and an analysis of insitu and exsitu contributions", *Technovation*, 32 (7) 419-429
- Green, L., Howells J., and Miles, I., (2001), "Services and Innovation: Dynamics of Service Innovation in the European Union", PREST/CRI, University of Manchester and UMIST

Greenley, G. E. and Foxall, G. R., (1998), "External moderation of associations among stakeholder orientations and company performance", *International Journal of Research in Marketing*, 15 (1) 51-69

Jenssen, J. and Nybakk, E., (2009), "Interorganizational Innovation Promoters in Small, Intensive-Knowledge Firms", *International Journal of Innovation Management*, 13 (3) 441-466

Kandampully, J., (2002), "Innovation as a core competence of a service organization: The role of technology, knowledge and networks", *European Journal of Innovation Management*, 5 (1) 18-26

Lorenzoni, G. and Baden-Fuller, C., (1995), "Creating a Strategic Center to Manage a Web of Partners", *California Management Review*, 37 (3) 146-163

Mele, C., Spina, T. and Colurcio, M., (2010), "Co-creating value innovation through resource integration", *International Journal of Quality and Service Sciences*, 2 (1) 60-78

Mele, C., Spina, T. and Colurcio, M., (2011), "Service-Dominant Logic as a Framework for Innovation within Networks", *SSRN Working Paper Series*

Noori, H. and Lee, W. B., (2004), "Collaborative design in a networked enterprise: the case of the telecommunications industry", *International Journal of Production Research*, 42 (15) 3041-3054

Perks, H., Gruber, T. and Edvardsson, B., (2012), "Co-creation in Radical Service Innovation: A Systematic Analysis of Microlevel Processes", *Journal of Product Innovation Management*, 29 (6) 935-951

Rogers, E. and Kincaid, D.L., (1981), "Communication Networks: Toward a New Paradigm for Research", Free Press, New York, NY

Rycroft, R.W. and Kash, D.E., (2004), "Self-Organizing Innovation Networks: Implications for Globalization", *Technovation*, 24 (3) 187-197

Smith, A.M. and Fischbacher, M., (2005), "New service development: a stakeholder perspective", *European Journal of Marketing*, 39 (9) 1025-1048

Syson, P. and Perks, H., (2004), "New service development: a network perspective", *Journal of Services Marketing*, 18 (4) 255-266

# **SERVICE PLATFORM STRATEGY – A WAY TO SERVITIZE THE AFTER SALES BUSINESS OF AN INDUSTRIAL MANUFACTURER?**

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## **INTRODUCTION**

External platforms, i.e. organizing business to interdependent modular components of an industry ecosystem to facilitate the innovation and delivery of complementary products, have been researched primarily in product-based contexts (Gawer and Cusumano 2002, Gawer 2009). As businesses transition from goods to service-dominant logic (Vargo and Lusch 2004), the theory of platforms must be extended to meet the demands of the service business. In addition, because empirical evidence of platforms is primarily from information technology, the focus should be extended to new empirical contexts.

This study focuses on after sales business of an industrial manufacturer, in which the transition to services, i.e. servitization, is ongoing and new ways are developed to organize the process to accompany currently dominating intra-firm and phased approaches. The service platform could take an ecosystem and evolutionary approach to the phenomenon. The research question is: how the service platform approach is planned to be adopted in servitization? And, what challenges do the companies see in adopting the platform strategy?

## **THEORY**

### **Servitization of manufacturers**

The adoption of servitization by manufacturers is largely seen happening either inside a single firm or with collaboration agreements (Baines 2009), by an unidirectional and stepwise process. Different classifications of stages have been identified. Oliva and Kallenberg (2003) introduce a product-service continuum along which the companies transform, via consolidation of product related services, entering the installed base (IB) market, expanding to relationship centered services and taking over customer's operations. Mathieu (2001) identifies two different service types for the continuum: the first supports supplier's product and the second client's actions in relation to the product. In addition, Cova, Dontenwill and Salle (2000) mention third type: services supporting the client's network.

Although firms prefer the controlled and stepwise servitization because of risk control (Baines 2009), there is also criticism towards the approach. E.g. Brax (2005) argues that there is a risk of keeping services secondary to the product offering. In addition, Kinnunen and Turunen (2012) and Turunen (2011) show cases in which partial and reverse servitization process is most suitable. Thus, discovery of new ways and methods of servitization is encouraged (e.g. Baines 2009).

## External platforms

According to Gawer (2009), an industry platform is a foundation for other companies in the ecosystem, i.e. complements, to build products or services according to the rules set by the orchestrator firm. Multi-sided platforms also facilitate transactions between different sides of the market. In these “external platforms” (in contrast to intra-firm and supply-chain platforms) the orchestrator protects the key resource, i.e. core, of the platform, defines the interfaces, and fosters open innovation for complementors who enjoy reduced transaction costs and faster time-to-market. The offering of the orchestrator extends as complementors innovate new products. As new members join the platform, network effects raise the value for every stakeholder.

## METHOD AND SAMPLE

The explorative nature of the research questions lead to an inductive qualitative multiple-case study approach. Theoretical sampling method was used with focus on industrial manufacturing companies that would operate in after sales with two distinct aims: 1) transitioning from manufacturing to service logic and 2) preventing falling back from services to manufacturing. Two cases were found, one for each extreme. The data is based on semi-structured interviews accompanied with product materials and IT-systems. As the research is underway, there currently is only limited, although triangulated, data available for the first of the case companies.

## FINDINGS

According to the results, case companies servitize in non-stepwise way and in a form not described in current literature. The companies plan to extend their reach to the downstream by involving the industry ecosystem: letting third parties to design and deliver the service and leaving the extent and order of servitization partially undetermined. Three concrete examples arise from the data: 1) opening flexible interfaces to company’s own and co-opetitors’ IB to foster independent service innovation (Fig 1) 2) opening access to and “lending” the reputation of the orchestrator (Fig 2) and 3) opening access to orchestrator’s structural network position close to end-customers to service innovators (Fig 3).

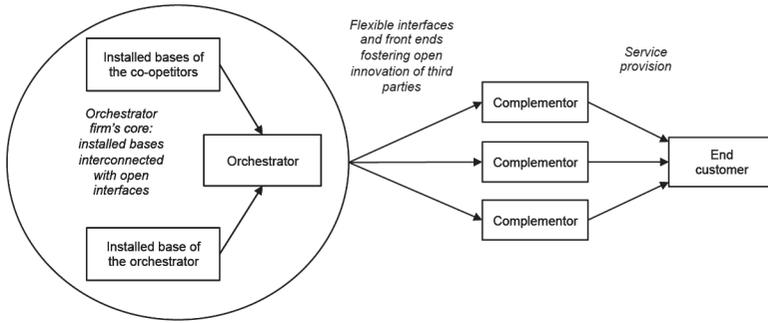


Figure 1: opening flexible interfaces to IB to foster innovation

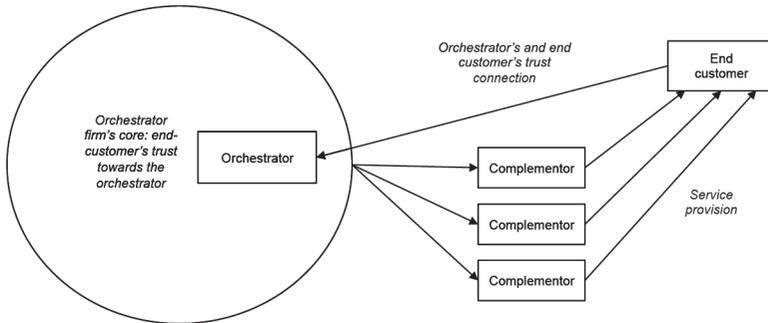


Figure 2: opening access to the reputation of the orchestrator

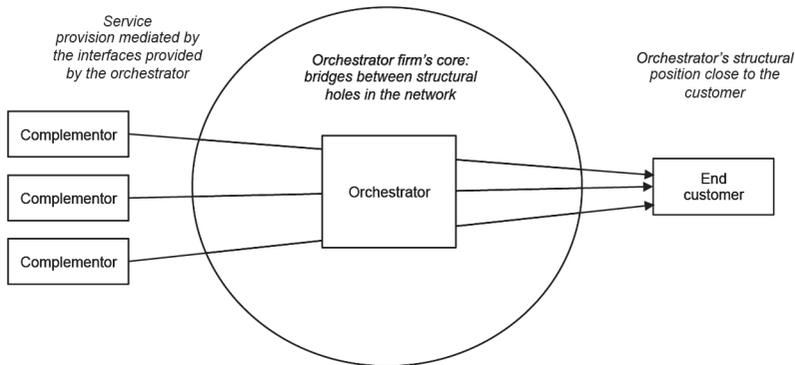


Figure 3: opening access to the orchestrator's structural position

## CONCLUDING DISCUSSION

Adopting platform strategy in servitization seems a possible option and both industry platform and two-sided market approach is applicable. The strategies enable "open servitization" via the ecosystem. The key challenges are 1) what is the key asset the interfaces should be opened to, 2) how to protect the asset to which the access is opened and

balance between openness and flexibility of the interfaces, 3) how to get closer to the customer and get more power in the network and 4) how to communicate the value to all potential stakeholders. These questions involve different approaches if the core asset of the company is a tangible (like IB) or intangible (like a position in a network or reputation).

In the final results of the study, more details are provided on how the case companies organize the servitization around platform strategies.

## REFERENCES

Baines, T. S., Lightfoot, H. W., Benedettini, O., & Kay, J. M. (2009), "The servitization of manufacturing: a review of literature and reflection on future challenges". *Journal of Manufacturing Technology Management*, 20 (5), 547-567

Brax, S. (2005), "A manufacturer becoming service provider—challenges and a paradox". *Managing service quality*, 15 (2), 142-155.

Cova, B., Dontenwill, E. and Salle, R. (2000), "A network approach to the broadening of the offering". Paper presented at the 16th IMP Conference, Bath, September 1-3.

Gawer, A. (2009), *Platforms, Industry Dynamics and Firms Capabilities*. In A. Gawer (Ed.), *Platforms, Markets and Innovation*. London, UK: Edward Elgar.

Gawer, A, Cusumano, M.A., (2002), *Platform Leadership: How Intel, Microsoft, and Cisco Drive Industry Innovation*. Boston: Harvard Business School Press.

Kinnunen, R. E., & Turunen, T. (2012), "Identifying Servitization Capabilities of Manufacturers: A Conceptual Model". *Journal of Applied Management And Entrepreneurship*, 17 (3), 55-78.

Mathieu, V. (2001), "Product services: from a service supporting the product to a service supporting the client". *Journal of Business & Industrial Marketing*, 16 (1), 39-61.

Oliva, R., & Kallenberg, R. (2003), "Managing the transition from products to services". *International Journal of Service Industry Management*, 14 (2), 160-172.

Turunen, T. (2011), Users as a development driver in manufacturing: the case of 'reverse' servitization, in Sundbo, J. Toivonen M. (eds) *User-Based Innovation in Services*, Edward Elgar, Cheltenham, UK. 177-199.

Vargo, S. L. & Lusch, R.F. (2004), "Evolving to a new dominant logic for marketing", *Journal of Marketing*, 68 (1) 1-17.

# SERVICES SUCCESS FACTORS FOR B2B MANUFACTURING COMPANIES

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## INTRODUCTION

In order to overcome increasing product commoditization and parity, manufacturers operating in a business-to-business (B2B) environment are looking to services for value creation. Although the need for manufacturers to servitize is widely accepted (Ostrom et al. 2010), what is less clear is how manufacturers measure the success of their services and what factors enable the creation of successful services. Previous research in this area has predominantly been exploratory, with Jacob and Ulaga (2008) calling for an approach that is generalizable to the population. In this research, a comparison is made between manufacturers selling complex products and systems (CoPS) and other products.

The research answers three questions: 1) How do manufacturers measure the success of their services? 2) What capabilities enable successful services for manufacturers? 3) What differences exist between manufacturers selling CoPS and others products, in terms of the measurement and enablement of services success?

## THEORETICAL FRAMEWORK

Manufacturers measure services success in a number of ways: via financial measures that can be directly related to services, e.g. profitability (Homburg et al. 2003) and sales (Gebauer et al. 2006); via indirect financial measures, e.g. measuring the success of the overall company (Fang et al. 2008); via non-financial measures for which services play a part, e.g. customer satisfaction (Bharadwaj et al. 1993) and customer loyalty (Gebauer et al. 2009).

A review of the literature revealed a number of operant resource-based capabilities (Ngo and O'Cass 2009) which enable manufacturers to develop successful services. These are grouped under five headings: 'Industry standing', including developing a services culture (Ostrom et al. 2010) and having a good industry reputation (Hansen et al. 2008); 'Services Methods and Infrastructure', including possessing a large network of service centers and developing efficient service methodologies (Auguste et al. 2008); 'Managers/Services Personnel', including corporate leaders setting and communicating a services vision for their organizations (Anticio et al. 2008) and services personnel with technical expertise and customer empathy (Gounaris 2005); 'Team Working', including partnering with customers and other manufacturers (Windahl et al. 2004) and 'Solution Approach', including the ability to deliver multi-vendor solutions (Raddats and Easingwood 2010).

## METHODOLOGY

A sample of 642 large UK-based manufacturers was sourced, stratified to include; half manufacturers selling CoPS and half other products. Survey items were developed from the literature and refined through discussions with 10 managers from the population and two academic experts. 10 items were ultimately used to measure services success and 23 to capture the five capabilities that enable successful services. The survey was sent to one manager per organization, who was knowledgeable about its services. 155 usable responses were received, including 78 from manufacturers selling CoPS.

In order to answer RQ1 and create a suitable construct for measuring services success, exploratory factor analysis was used to identify the underlying components of the 10 items.

Confirmatory factor analysis was used to address RQ2 and test which of the five capabilities enable successful services. Confirmatory factor analysis was then re-run on the sample of manufacturers selling CoPS and on the sample of those selling other products to answer RQ3. Each capability was tested separately because of the constraint of sample size; each model was a good fit for the data (Hair et al. 2006).

## RESULTS AND DISCUSSION

Two components were revealed for measuring services success; 'Enabling Corporate Success' (the role of services in creating product differentiation) and 'Satisfaction and Delivery' (how services can create satisfied stakeholders). 'Enabling Corporate Success' was found to be the pre-eminent measure of services success, comprising the items with the highest means and having construct reliability of 0.9 and average variance extracted (AVE) of 0.6. The items which comprise this scale are shown in table 1, together with the item means and standard deviations (SDs). The reliability of the scale was improved by removing the item 'Sales of my company's services are growing strongly', which also had a low item mean (5.3) indicating that it is less relevant for measuring services success than other items in the scale.

Table 1: Items comprising the 'Enabling Corporate Success' scale

Item	Mean/SD
My company's services enhance the performance of our products	5.8/1.4
Services help my company to retain existing customers	6.0/1.1
Services enable my company to win business with new customers	5.9/1.2
Services have enabled my company to sell new products to existing customers	5.8/1.4

'Enabling Corporate Success' was used to test the capabilities which enable successful services. Factor correlations to 'Enabling Corporate

Success' are shown in table 2. For 'all manufacturers' and manufacturers selling CoPS, all five capabilities had a 'substantial impact' (> 0.5, Hair et al. 2006). For manufacturers selling other products, only two capabilities had a 'substantial impact'. The pre-eminent capability for each group is shown in italics.

Table 2: Factor correlations to 'Enabling Corporate Success'

Capability	All manufacturers	Manufacturers selling CoPS	Manufacturers selling other products
Industry Standing	<i>0.61</i>	0.71	0.53
Managers/Services Personnel	0.55	0.69	0.40
Solution Approach	0.52	<i>0.80</i>	0.27
Team Working	0.52	0.65	0.38
Services Methods and Infrastructure	0.51	0.59	<i>0.56</i>

The contribution of the research is threefold: firstly, the development of a common measure of services success shows that for many manufacturers the indirect impact of services on overall business performance, particularly their products, is more important than the direct financial impact of services, e.g. sales. This finding is at odds with some previous studies which highlight the direct financial impact of services (Homburg et al., 2003). Secondly, the study identifies and ranks the capabilities that enable manufacturers to create successful services, highlighting the importance of 'Industry standing'. Strong industry standing will often have come about because of historic relationships with customers built on the manufacturer's product heritage. Thirdly, for manufacturers selling CoPS a 'Solution Approach' appears essential, whilst for manufacturers selling other products, this capability appears far less important.

## REFERENCES

- Anticio, M., Moenaert, R., Lindgreen, A. and Wetzels, G. (2008), "Organizational antecedents to and consequences of service business orientations in manufacturing companies", *Journal of Academy of Marketing Science*, 36, 337-358
- Auguste, B., Harmon, E. and Pandit, V. (2006), "The right service strategies for product companies", *The McKinsey Quarterly*, 1 40-51
- Bharadwaj, S., Varadarajan, R. and Fahy, J. (1993), "Sustainable competitive advantage in service industries: A conceptual model and research propositions", *Journal of Marketing*, 57 (4) 83-99
- Fang, E., Palmatier, R. and Steenkamp, J. (2008), "Effect of service transition strategies on firm value", *Journal of Marketing*, 72 (4), 1-14
- Gebauer, H., Friedli, T. and Fleisch, E. (2006), "Success factors for achieving

high service revenues in manufacturing companies”, *Benchmarking. An International Journal*, 13 (3) 374-386

Gebauer, H., Putz, F., Fischer, T. and Fleisch, E. (2009), “Service orientation of organizational structures”, *Journal of Relationship Marketing*, 8 (2) 103-126

Gounaris, S. (2005), “Trust and commitment influences on customer retention: Insights from business-to-business services”, *Journal of Business Research*, 50 (2) 126-140

Hair, J., Black, W., Babin, B., Anderson, R. and Tatham, R. (2006), *Multivariate Data Analysis* (6th ed.), Pearson Prentice Hall, Upper Saddle River, NJ

Hansen, H., Samuelsen, B. and Silseth, P. (2008), “Customer perceived value in b2b service relationships: Investigating the importance of corporate reputation”, *Industrial Marketing Management*, 37 (2) 206-217

Homburg, C., Fassnacht, M. and Guenther, C. (2003), “The role of soft factors in implementing a service-orientated strategy in industrial marketing companies”, *Journal of Business-to-Business Marketing*, 10 (2) 23-51

Jacob, F. and Ulaga, W. (2008), “The transition from product to service in business markets: An agenda for academic inquiry”, *Industrial Marketing Management*, 37 (3) 247-253

Ngo, L. and O’Cass, A. (2009), “Creating value offerings via operant resource-based capabilities”, *Industrial Marketing Management*, 38 (1) 45-59

Ostrom, A., Bitner, M., Brown, S., Burkhard, K., Goul, M., Smith-Daniels, V., Demirkan, H. and Rabinovich, E. (2010), “Moving forward and making a difference: Research priorities for the science of service”, *Journal of Service Research*, 13 (1) 4-36

Raddats, C. and Easingwood, C. (2010), “Services growth options for B2B product-centric businesses”, *Industrial Marketing Management*, 39 (8) 1331-1342

Windahl, C., Andersson, P., Berggren, C. and Nehler, C. (2004), “Manufacturing firms and integrated solutions: Characteristics and implications”, *European Journal of Innovation Management*, 7 (3) 218-228.

# SERVICE SYSTEMS INTEGRATION IN MENTAL HEALTH CARE

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## ABSTRACT

This paper focuses on the novel concept of service system integration (Böhmann, Edvardsson, Tronvoll 2012) and its application to mental health care services. The paper reviews medical literature on complex health care interventions in mental health to derive insights for a refined understanding of service system integration. Mental health is a key concern for health care systems in many countries. Advanced treatment often requires integrating services of different health care providers. The review of mental health care studies through the lens of a service systems integrations framework reveals perspectives for further research of integration aspects in mental health services in particular and service in general.

## INTRODUCTION

Recently, service system integration has been proposed as a concept to capture complex value co-creation phenomena (Böhmann, Edvardsson and Tronvoll 2012). In service systems, value is created collaboratively by means of interaction and mutual exchange (Vargo, Maglio and Akaka 2008). Spohrer et al. (2008) thus define a service system as a dynamic value co-creation arrangement of resources (organizations, people, information and technology) linked to other service systems via value propositions. Service systems depend on the resources of each other, which results in resource integration across service system boundaries. Moreover, service systems are connected through the proposition, adoption and assessment of value (Vargo, Maglio and Akaka 2008).

According to Böhmann, Edvardsson and Tronvoll (2012), service system integration occurs on three levels, which will be used as a framework within this research paper: value proposition, co-created service processes and resources.

Value within service systems can be defined as improvement in system well-being and can be measured in terms of "system's adaptiveness or ability to fit in its environment" (Vargo, Maglio and Akaka 2008). In the context of the medical service, we conceive the value proposition to represent a claim or promise with regard to the effects of a service. Any activity needed to deliver a service can be viewed as a process (Böhmann, Edvardsson and Tronvoll 2012). Resources provide knowledge and skills or other assets to enact the service. The integration of resources across systems is a basis for the integration of value proposition and processes (Böhmann, Edvardsson and Tronvoll 2012).

In our paper we discuss service systems integration within boundaries of a complex context represented by mental health care systems. Health care has been suggested as a fruitful field of study for service researchers (Berry and Bendapoudi 2007). This proposition extends particularly to

the study of service system integration, as the need to integrate service systems to improve the performance of services is evident in this sector. Operating often in a tightly regulated environment, care services are often fragmented at the boundaries of specific service systems that provide health care and social services (Browne et al. 2007).

Our focus on mental health care as a specific health care branch can be explained by a global concern over the mental disorders. Mental illness does not only cause social problems through deteriorating the quality of life, but is often a reason for strong economic problems through the loss of working hours and unemployability (Harnois and Gabriel 2000).

Mental disorders do not only occur independently, but are often combined with substance abuse (Morse et al. 2006) or physical illnesses (Kane and Blank 2004) or can be accompanied by housing issues, criminal behavior or poor social life. Due to comorbidity (additional disorders to the primary disease) and various issues needed to be addressed within treatment of mental disorders multiple integrated health care systems emerged lately. Such systems combine services of different health care and social institutions and connect multi-sector and multi-disciplinary healthcare services (Orlowski and Wasem 2003). The examples of such systems include managed care, disease management programs, assertive community treatment as well as various types of collaborative care.

This paper seeks to leverage medical research on collaborative care in mental health to derive insights for service research. This body of knowledge has grown recently, as more studies were conducted in order to explore the effectiveness and benefits from integrated mental health care systems and disease management programs (Badamgarav et al. 2003).

The paper is structured as follows. First, we discuss the methodology used for finding relevant publications. We then categorize and allocate papers using established frameworks for service system integration. Resting upon results we derive conclusion and outline the contribution of our paper in terms of service system and mental health care research.

## METHODOLOGY

The research is based on previous studies concerning service system integration experience within the scope of mental health care. The service systems with a strong networking and cooperation focus such as assertive community treatment, collaborative care, disease management and others are considered to be of the primary interest.

The literature search was performed within ABI/INFORM Complete database – a comprehensive business database also covering medical and healthcare management topics. In order to gain specific results combining service system integration and mental health care, several keywords combinations were used to search within the database. E.g. “mental health and service system”, “integrated mental health”, “disease management and mental health”, “community treatment and psychiatry” in subject, title or abstract. A total set of 98 papers was extracted.

For improving the quality of our literature review, we decided to use papers from best-ranked journals or conference proceedings. Because we have reviewed medical and mental health care papers – an SJR index (SCImago Journal & Country Rank 2013) was used to define the journal quality. Only papers from high-quality journals were considered for further review (index values Q1 and Q2). Subsequently, we reviewed the remaining papers and analysed them in terms of their relevance with the service systems integration topic. Finally, 18 papers were selected for a detailed analysis.

The selected papers are further inspected in terms of service systems and integration focus used. Then, criteria according to the selected framework of Böhmann, Edvardsson and Tronvoll (2012) are used to systemize the research results (see Table 1 and Table 2).

## RESULTS

The current paper identifies various facets of service system integration in mental health care. Those facets include integration levels, participating actors or systems as well as issues and problems hindering the integration.

### Integration focus

Table 1 indicates mental health (MH) service systems (including ACT – assertive community treatment) as well as the integration focus discussed within each paper.

Table 1: Summary of papers reviewed

<b>Paper</b>	<b>Service systems</b>	<b>Integration focus</b>
Meisler et al. 1997	Training in community living	Integration of community support system within existing MH care settings.
Roth et al. 1997	Community MH agencies	Shift from hospital-based support to local community support and management.
Rosenthal 1999	Managed MH organization	Fee-for-service system moving to case-rate system with utilization management.
Roskes et al. 1999	Collaborative care model	The paper describes collaboration of community MH and Probation Office.
Heflinger et al. 2000	Managed MH care system	Change from MH care to managed care within a for-profit managed care company.
Herman et al. 2000	MH dependence program	Integrating a substance abuse treatment program in psychiatric setting.
Laws et al. 2002	Managed care system	Integration of substance abuse and physical care within one system.
Kane et al. 2004	ACT program	Integration of psychiatric nurses and consumer peers into ACT.
Kirchner et al. 2004	Community outpatient clinics	Implementation of integrated MH care in community-based outpatient clinics.
Wallace et al. 2005	Community link service system	Integration of ACT and clinical case management provided by nurses.
Morse et al. 2006	Community MH agencies	Implementing ACT within community MH agencies.
Morrissey et al. 2007	Forensic mental health systems	Extension and adaptation of ACT within criminal justice settings.
Tucker et al. 2008	Intensive care management	Forming community MH teams and placing them in various settings.
Aarons et al. 2009	Public MH service systems	Integration of evidence-based programs in public MH settings.
O'Brien et al. 2009	MH community service & housing	Integration of community treatment orders with community engagement and housing.
Verhaegh et al. 2009	MH care organization	Adding an ACT team to an existing MH care organization.
Cusack et al. 2010	County MH department	Forensic adaptation of an ACT team.
Salyers et al. 2010	Community MH centres	Integration of peers into ACT teams for illness management and recovery.

Due to the focus of our paper on highly integrated health care systems, many contributions reviewed here are concerned with assertive community treatment (ACT). ACT is exemplary for service system integration. A typical ACT team integrates the skills and knowledge of psychiatrists, social workers, nurses, coordinators and other staff. The service provided through ACT is often being integrated into various mental health care settings as well as other institutions. Verhaegh et al. (2009) discuss the

implementation of ACT into existing psychiatric clinics. Cusack et al. (2010) analyse the integration of ACT for forensic population in jails, whereas Morse et al. (2006) talk about housing arrangements in their research for mentally ill homeless persons. Therefore value proposition of ACT is aimed at leveraging care for patients with mental illness as well as other disorders and issues.

The literature analysed in this article is concerned with various integration aspects depending on actors involved. Some of them discuss the inclusion of new programs or teams into existing care settings (Morse et al. 2006; Verhaegh et al. 2009) and talk about collaboration between systems (Roskes et al. 1999). An interesting integration form is discussed by Laws, Gabriel and McFarland (2002), who combine substance abuse and physical health care under one managed care system.

### Integration levels and challenges

Table 2 is concerned with levels of service system integration. The table indicates whether or not the papers report on the integrated value proposition (VP), integrated processes (P) or resources integration (R) across service system boundaries, as proposed by Böhmann, Edvardsson and Tronvoll (2012). The value proposition defined in this context can be divided into two groups: a value proposition aimed at treatment effects and a value proposition aimed at organizational or procedural benefits. Treatment value proposition (VPT) shows how treatment outcomes can be improved through service (Verhaegh et al. 2009). An organizational value proposition (VPO) denotes other benefits related to the organizations involved, e.g. diminishing service fragmentation (Roth et al. 1997) or optimization of care management (Kirchner et al. 2004). If the paper contains information on the integration of value propositions, processes, and/or resources, we indicate this in Table 2. Although service system integration combines all of these factors simultaneously, not all papers provide information of the integration on all levels.

In a second step, we analyse whether specific challenges have occurred with regard to integrating value propositions, processes, and/or resources. If a paper reports these issues, we indicate this in the Challenges column of Table 2.

Table 2: Service integration levels and challenges

	Integration levels				Challenges		
	VP		P	R	VP	P	R
	VPO	VPT					
Aarons et al. 2009		x	x	x			x
Roth et al. 1997	x	x				x	
Heflinger et al. 2000		x	x			x	x
Rosenthal 1999		x	x			x	
Kirchner et al. 2004	x		x	x		x	x
Salyers et al. 2010		x	x			x	x
Tucker et al. 2008		x	x			x	x
Verhaegh et al. 2009		x	x		x	x	
Kane et al. 2004		x			x		
Wallace et al. 2005		x					
Morrissey et al. 2007		x			x		
Roskes et al. 1999		x	x		x		
O'Brien et al. 2009		x	x		x		
Morse et al. 2006		x			x	x	
Cusack et al. 2010		x					x
Laws et al. 2002	x	x				x	x
Herman et al. 2000		x					
Meisler et al. 1997		x					x
<b>Total</b>	<b>3</b>	<b>17</b>	<b>9</b>	<b>2</b>	<b>6</b>	<b>9</b>	<b>8</b>

### Findings on integration levels

Value proposition: Most of the papers discuss value proposition in terms of treatment outcomes. There is no doubt that the primary goal of integration within health care is the achievement of better treatment for mentally ill patients. Verhaegh et al. (2009) state that an assertive community treatment model aimed at specific demands of patients with first-episode psychosis can help to leverage treatment outcomes. Others propose that these effects generate additional improvements such as enhancing social contacts of patients (Kane and Blank 2004), fewer jail days for mentally ill offenders (Cusack et al. 2010), reducing alcohol use (Herman et al. 2000) etc. Only few papers are aimed at analysing an organizational and procedural value proposition. Authors that explored this topic indicate, for example, such value proposition focuses as diminishing service fragmentation (Roth et al. 1997), optimization of primary care management (Kirchner et al. 2004) etc.

Processes: Relatively few papers explicitly address the integration of processes. The common processes that some authors explore are related to training, interorganizational cooperation (Roth et al. 1997), communication (Kirchner et al. 2004; Verhaegh et al. 2009) as well as working patterns and staff roles (Tucker et al. 2008). Resources: Only two papers in our literature review report on issues concerned with the

integration of resources by analysing staffing and funding (Aarons et al. 2009; Kirchner et al. 2004). Such a limited focus on resource integration stands in strong contrast with the significant challenges concerned with resources that the paper report (see the following section).

### Integration challenges

All papers except for Herman et al. (2000) indicated some challenges or issues hindering service system integration. Laws, Gabriel and McFarland (2002) even devote a special section to integration barriers. They indicate such issues as financial losses, administrative changes, lack of training and incentives for physicians, changes in chemical dependency benefits. Most common challenges concerning resources are resource availability (Aarons et al. 2009; Kirchner et al. 2004), financial issues (Laws, Gabriel and McFarland 2002; Cusack et al. 2010), as well as lack of specialists and difficulties in obtaining information or patient records (Heflinger and Northrup 2000; Meisler et al. 1997). After the allocation of challenges to diverse categories it becomes evident that they are often concerned with the integration of resources or processes and less with the value proposition.

### CONCLUSION

We conclude that service systems integration within mental health care takes various forms and thus is facing diverse challenges. Either launching new collaborative models or integrating programs within existing institutions and teams is becoming a focus for many mental health care researchers. Given the general trend of decentralizing health care, switching to low-threshold services and cooperation among institutions, service system integration can be studied in the context of health care service.

Our research indicated two types of value proposition discussed within literature: value propositions aimed at organizational and procedural effects as well as value propositions concerned with treatment outcomes. Treatment improvement is a primary goal and outcome of service integration in health care (Salyers et al. 2010; Roskes et al. 1999). However, mental health care is a complex structure often being an economic burden for governments and health insurers. Thus, there is a need for change towards more efficient organization, funding and delivery (Roth et al. 1997). This is why the value proposition in terms of organization cannot be neglected and is often on reforming agenda of health care institutions and governments.

Processes and resources are surely essential elements of every service integration effort. None of the assertive community treatment could have taken place without staffing and financing resources, or without administrative changes and corresponding training across the involved service systems. Nevertheless, these integration levels are often underestimated, although they play a significant role in supporting value proposition. Our research indicates that mental health research literature is less concerned with these factors, but often indicates them as challenges hindering service system integration. Therefore the integration levels of processes and resources demand a detailed consideration and further

research, in particular in medical research focused on improving health services through service system integration.

Overall, the insights gained from the field of mental health care on service system integration point to a promising domain for studying the new concept of service system integrations. We expect findings from this field to provide insights for other health services as well as service research in general. In sum our analysis provides guidance for further research on service systems integration as well as for managerial practice tasked with developing integrated health care services.

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## REFERENCES

Aarons, G., Wells, R., Zagursky, K., Fettes, D. and Palinkas, L., (2009), "Implementing Evidence-Based Practice In Community Mental Health Agencies: A Multiple Stakeholder Analysis", *American Journal of Public Health*, 99 (11) 2087-2095

Badamgarav, E., Weingarten, S., Henning, J., Knight, K., Hasselblad, V., Gano, A. and Ofman, J., (2003), "Effectiveness Of Disease Management Programs in Depression: A Systematic Review", *American Journal of Psychiatry*, 160 2080-2090

Berry, L. and Bendapoudi, N., (2007), "Health Care. A Fertile Field For Service Research", *Journal of Service Research*, 10 (2) 111-122

Browne, G., Kingston, D., Grdisa, V. and Markle-Reid, M., (2007), "Conceptualization And Measurement Of Integrated Human Service Networks For Evaluation", *International Journal of Integrated Care*, 7 (20) 1-6

Böhmman, T., Edvardsson, B. and Tronvoll, B., (2012), "Service Systems Integration", *Electronic Proceedings of the 1st International Conference on Human Side of Service Engineering*, San Francisco, USA. July 21-25 2012

Cusack, K., Morrissey, J., Cuddeback, G., Prins, A. and Williams, D., (2010), "Criminal Justice Involvement, Behavioral Health Service Use, And Costs of Forensic Assertive Community Treatment: A Randomized Trial", *Community Mental Health Journal*, 46 356-363

Harnois, G. and Gabriel, P., (2000), "Mental Health And Work: Impact, Issues And Good Practices", *World Health Organization*, Geneva

Heflinger, C. and Northrup, D., (2000), "What Happens When Capitulated Behavioral Health Comes To Town?", *The Journal of Behavioral Health*

Herman, S., Frank, K., Mowbray, C., Ribisl, K., Davidson, W., Miller, B., Jordan, L., Greenfield, A., Loveland, D. and Luke, D., (2000), "Longitudinal Effects Of Integrated Treatment On Alcohol Use For Persons With Serious Mental Illness And Substance Use Disorders", *The Journal of Behavioral Health Services & Research*, 27 (3) 286-302

Kane, C. and Blank, M., (2004), "NPACT: Enhancing Programs Of Assertive Community Treatment For The Seriously Mentally Ill", *Community Mental Health Journal*, 40 (6) 549-559

Kirchner, J., Cody, M., Thrush, C., Sullivan, G. and Rapp, C., (2004), "Identifying Factors Critical To Implementation Of Integrated Mental Health Services In Rural VA Community-Based Outpatient Clinics", *The Journal of Behavioral Health Services & Research*, 31 (1) 13-24

Laws, K., Gabriel, R. and McFarland, B., (2002), "Integration And Its Discontents: Substance Abuse Treatment In The Oregon Health Plan", *Health Affairs*, 21 (4) 284-289

Meisler, N., Blankertz, L., Santos, A. and McKay, C., (1997), "Impact Of Assertive Community Treatment On Homeless Persons With Co-Occurring Severe Psychiatric And Substance Use Disorders", *Community Mental Health Journal*, 33 (2) 113-122

Morrissey, J., Meyer, P. and Cuddeback, G., (2007), "Extending Assertive Community Treatment To Criminal Justice Settings", *Community Mental Health Journal*, 43 (5) 527-544

Morse, G., Calsyn, R., Klinkenberg, W., Helminiak, T., Wolff, N., Drake, R., Yonker, R., Lama, G., Lemming, M., and McCudden, S., (2006), "Treating Homeless Clients With Severe Mental Illness And Substance Use Disorders: Costs And Outcomes", *Community Mental Health Journal*, 42 (4) 377-404

O'Brien, A., Farrell, S. and Faulkner, S., (2009), "Community Treatment Orders: Beyond Hospital Utilization Rates Examining The Association Of Community Treatment Orders With Community Engagement And Supportive Housing", *Community Mental Health Journal*, 45 415-419

Orlowski, U. and Wasem, J., (2003), *Gesundheitsreform 2004: GKVModerisierungsgesetz (GMG)*, Heidelberg: Economica-Verlag.

Rosenthal, M., (1999), "Risk Sharing In Managed Behavioral Health Care", *Health Affairs*, 18 (5), 204-213

Roskes, E., Feldman, R., Arrington, S. and Leisher, M., (1999), "A Model Program For The Treatment Of Mentally Ill Offenders In The Community", *Community Mental Health Journal*, 35 (5), 461-472

Roth, D., Lauber, B., Crane-Ross, D. and Clark, J., (1997), "Impact Of

State Mental Health Reform On Patterns Of Service Delivery”, *Community Mental Health Journal*, 33 (6) 473-485

Salyers, M., McGuire, A., Rollins, A., Bond, G., Mueser, K. and Macy, V., (2010), “Integrating Assertive Community Treatment And Illness Management And Recovery For Consumers With Severe Mental Illness”, *Community Mental Health Journal*, 46 319-329

SCImago (2013), “SJR — SCImago Journal & Country Rank”, available online at: <http://www.scimagojr.com/index.php>, accessed 16.02.2013.

Spohrer, J., Vargo, S., Caswell, N. and Maglio, P., (2008), “The Service System Is The Basic Abstraction Of Service Science”, *Proceedings of the 41st Hawaii International Conference on System Sciences*, 7-10 January 2008, Waikoloa, Big Island, HI, USA

Tucker, S., Hughes, J., Sutcliffe, C. and Challis, D., (2008), “Care Management For Older People With Mental Health Problems: From Evidence To Practice”, *Australian Health Review*, 32 (2) 210-222

Vargo, S., Maglio, P., and Akaka, A., (2008), “On Value And Value Co-Creation: A Service Systems And Service Logic Perspective”, *European Management Journal*, 26 145-152

Verhaegh, M., Bongers, I., Kroon, H. and Garretsen, H., (2009), “Model Fidelity Of Assertive Community Treatment For Clients With First- Episode Psychosis”, *Community Mental Health Journal*, 45 12-18

Wallace, T., O’Connell, S. and Frisch, S., (2005), “Community Psychiatric Practice. What Do Nurses Do When They Take To The Streets?”, *Community Mental Health Journal*, 41 (4) 481-496

## **SERVICE-ORIENTED BUSINESS MODELS IN BRAZILIAN MANUFACTURING COMPANIES**

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### **ABSTRACT**

Services offered during product lifecycle can increase revenue. The approach of aggregating services on products usage phase is known as product-service systems. With respect to end of life, remanufacturing is a service alternative of products recovering. The goal of this research is to investigate business models of firms that offer services during product lifecycle. The method was divided in two parts. The first part involved literature review about PSS and remanufacturing cases. During the second part of the research, two case studies were carried out in manufacturing companies. The paper provides highlights to firms willing to take on service strategies.

# **“SILVER AGERS” — NEW SERVICE DEVELOPMENT AND INNOVATIONS FOR OLDER PEOPLE. A CROSS-CASE ANALYSIS**

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## **ABSTRACT**

A multiple cross-case analysis focused on three different product and service innovations for older people that address the specific demands and needs of this important market segment is used to show how companies in different industries take care of such needs. Furthermore, three different theories are introduced in order to explain and support the different strategic approaches of the companies.

## **INTRODUCTION**

New business development including new service design and innovations for older customers is a promising way for companies to reach the profitable market segment of the so called “silver agers”. Other names and definitions exist such as “mature”, “golden agers” or “seniors”. Usually this defines elder people aged between 50 to 60 years or even above (Laukkanen et al 2007). However, companies need to know, understand and offer excellent services and innovations to respond to the changing wants and needs of older customers in the different age segments; thereby taking care of the often increased innovation resistance among mature consumers. Scientific research as well as companies’ research and development in this area are still in the beginning.

An aging population challenges companies across different countries and industries to respond to changing demands and expectations of growing shares of older customers on the total population. According to the United Nations, the number of people with the age of 60 and above is expected to triple to about two billion people by 2050. Therefore, aging populations are one of the most challenging global trends (United Nations 2011).

## **THEORIES**

Silver agers’ new service development focuses on individual autonomy and represents the aspect of a good life of aging people. Therefore, it seems to be a promising way for companies to innovate services across different industries. The object is to offer solutions that allow older people to keep their autonomy and to use products and service as long as possible to stay independent.

The interesting question is to explore how companies in different industries take care of such needs. Solution business and solution selling as well as the offer of added value for the target group are the main focus. Therefore, three different theories are introduced in order to explain and support the different strategic approaches of the companies. The general object is that older people can stay independent as long as possible.

The different strategic examples regarding product and service development of three companies are being compared and discussed. They are backed-up by three selected theories with regard to service innovation:

1. the first case includes new services that have been developed mainly and firstly for other applications and then have been adapted in order to tackle the promising market of silver agers (theory of adapted service innovation);
2. the second case relates to transferred services that are wellknown and have been introduced and used before in combination with other products (theory of transferred service innovation);
3. the third case focuses on service innovations that have been exclusively developed to market it directly to the older people's segment (theory of pure service innovation).

The following part examines the possible practical use of the theories by companies offering solutions for their older customers.

## STRATEGIES OF COMPANIES

Opportunities and risks are included for companies when dealing with the market segment of older customers. Opportunities include the exploration of such emerging markets or growth markets as the "silver" market in order to develop it in a profitable way. Risks include the non-acceptance of product and service innovations due to several barriers. Due to the heterogeneous characteristics of the "silver market", needs and capabilities vary largely, depending not only on the age as such, but on the general health and mental condition of the single older person (Herstatt/Kohlbacher/Bauer, 2011). Standardized solutions regarding the development of products and services seem almost to be impossible to be developed by companies. Sub-markets exist and expectations as well as usability vary significantly.

One common and important factor for all sub-segments seems to be the search for independency and autonomy as long as possible. Also the prevention and the regain of already lost autonomy is important. Free decision making processes of seniors and the object to make an own living as long as possible are most important key factors for companies to offer solutions with products and services.

Nevertheless, when focusing on the target group of older people, we have to keep in mind that younger customers also need to be convinced of new services and innovative products. Often, they are responsible for older family members and are included or in total responsibility regarding the final decision. Also institutions like nursing homes for the elderly and hospitals might be involved directly or indirectly in the decision making process.

## CASE STUDIES REGARDING NEW SERVICE DEVELOPMENT AND INNOVATIONS

The selected three case studies of new service development and innovations for elder customers amplify how companies tackle this important market segment.

Additionally, it is shown how the three theories regarding new service development and innovations (theory of adapted service innovation, theory of transferred service innovation and theory of pure service innovation) support the approaches of the companies.

### Emporia Telecom, Austria

Emporia Telecom is an Austrian owner-managed company established in 1991. The company has been specializing in mobile communication for seniors since 2001. Its success is based on the fact that it has found a niche market with growing demand. Today, Emporia is synonymous with simple, barrier-free communication, has operations in 30 countries and is one of the market leaders in cell phones for seniors.

It all started when the founder gave his mother a present of a mobile phone and from then on spent every weekend explaining to her how to use it to make a call. After a while, he realized that the problem was less his mother and more the phone: it had so many additional functions and features that it was virtually impossible to use it to make a simple call for the old women (Emporia 2013).

Today, many people – and certainly not just seniors – are looking for alternative solutions in a world that is increasingly complex and obsessed with technology. That means products that are quick and intuitive to use and do not overtax with countless options. The company early recognized this trend and is committed to providing barrier-free communication. Communication that ensures that no-one is excluded.

One of the key success factors is the set-up of a dedicated research department within the company to concentrate on the development of such cellular phones. About one third of the 120 employees work in this department, which the top management itself oversees. They apply modern technology to simplify complex processes, with the focus entirely on serving customers' needs. The company's short decision-making processes also provide the flexibility to respond rapidly to new trends – a factor that definitely contributes to the company's success. One of the marketing slogans is: "If you want to move people, you must learn to understand what they are moved by" (Emporia 2013).

A frequently asked question in the course of the development of a new product and service is: what is actually at the root of planning – the product or the target group? Successful companies distinguish themselves through consistent focus on the needs of the customer segments they address, as adequate satisfaction of customer needs leads to the desired consumer behavior. The work is based on scientific studies, specifically initiated surveys and on the direct feedback from consumers through user tests.

In the mid of 2012, a new mobile phone for senior users has been developed called emporiaSAFETYpremium – real life mHealth respectively mobile health. A new model offering older users extended new services, a totally new kind of security and assurance. The phone has an intelligent emergency call system. This enables the user to preprogramme five numbers into the phone that are called in sequence when the emergency button is pressed. The system is designed to ensure that it will continue to call these numbers in sequence until someone answers. The system will never divert to an answerphone.

In addition, it is equipped with a fall sensor. The phone detects by acceleration sensors whether the user fell over or simply dropped the mobile. If the user fell, the emergency call function is started automatically. A false alarm can be stopped within five seconds.

The mobile phone can be paired with a new Emporia emergency watch, which looks just like a normal wristwatch but also acts as remote access to the emergency call system. The alarm is triggered via one of the four buttons of the watch causing the emergency system to activate. This is an example of cross-selling among product lines of a company, because their functions interact and add value to each other.

To mention more extra service innovations, the EmporiaSAFETY premium built-in GPS sensor ensures that assistance can be provided at any time to the right place. After starting the emergency call function, the address is automatically send to recipients of the emergency call via text message. The address can be displayed on a map for compatible phones. The phone can work in conjunction with a senior or emergency services provider such as the Red Cross. In this case, the emergency response number is programmed into the emergency call button. The GPS data is delivered to the emergency service provider and they will directly offer assistance. The company has partnerships with a number of senior and emergency support organizations across the world and this provides extra value to the alarm system and adds value to the customer through that service. This again is an example on how to add value to the final customer through services via co-operations among companies or organizations. This seems to be an interesting trend in offering extended services via co-operations and partnerships.

The design of the phone is extremely user-friendly. The large, clearly separated keys have good tactile features. Key features, such as the menu, keypad lock, alarm clock and built-in flashlight can be operated using side buttons. The power button is located at the top of the unit and is clearly visible. The large, clear colour display provides optimum contrast and users can set the font size to suit their eyesight.

mHealth and assisted living are important topics that need proper consideration by the mobile industry. Critical to mHealth's success is building user-trust in mobile phones to deliver relevant services. The model is the first step along the road to fully integrated mobile health services that deliver relevant and effective solutions to mobile users across the world

(Emporia 2013).

The mobile health phone model's development is based mainly and firstly on other mobile phones including other applications. It then has been adapted and added with new services in order to tackle the promising market of silver agers. This is the basis for the theory of adapted service innovation, that applies in this case study.

Fujitsu, Japan

Fujitsu launched a new notebook PC called "Raku-Raku" or "easy-easy" PC 4 in 2011 that is specifically designed for easy use by seniors with little prior computing experience. It is equipped with a Japanese character input system for the touch panel. Users can start with a simple menu screen tailored to the needs of senior citizens, while a troubleshooter key allows them to jump to a special website and other navigations to obtain necessary information. The keyboards have both Japanese and English characters, while the mouse's right button is made with texture plastic to make it easier to press. The notebook is specially designed to be compatible with Fujitsu's "Raku-Raku" mobile phones also for the elderly with a large, crisp display and one-touch internet access. Fujitsu that launched the Raku-Raku phone in 2010/2011 states that Japan is a rapidly greying society with one of the world's longest life expectancies and lowest birth rates (Fujitsu 2011; United Nations 2011).

The new product includes new services, since it is capable of downloading data including pedometer and physical activity data from the Raku-Raku mobile phone. The pedometer and physical activity data is displayed in an easy-to-read graph form on a walking log application, making it fun for users to continue managing their health on a daily basis.

This is the basis of cross-selling, since the notebook combines new product features with additional services that can be used with the mobile phone. The customer experiences combined value added services. In addition, the new models come preinstalled with six different types of Microsoft office user templates, including those for notices and daily allowance records. The notebook also includes a preinstalled add-on package that allows users to create postcards in three steps which include selecting the layout, text input and printing. Users can easily send pictures from the phones to the new notebook through a special cartridge.

As additional services, the company offers an installation service at home, a help line for the PC in the form of customer support that is free for the first year of the use of the product. After that, the company is able to generate turn-over with that service business model.

In the future, Fujitsu wants to continue to make PC experience more comfortable for both senior citizens and novice PC users in terms of hardware, software and service/support services. The company is planning to introduce the phone and the notebook including its many services in the USA and UK in 2013/2014 (McEntegart 2013).

The development of the notebook model "Raku-Raku" is based mainly

and firstly on the success of the mobile phone “Raku-Raku”. Also, other notebooks including other applications have been existing before. It then has been transferred and combined with the mobile phone; additionally, new services have been introduced in order to tackle the promising market of silver agers. It relates to transferred services that are wellknown and have been introduced and used before in combination with other products. This is the basis for the theory of transferred service innovation that applies in this case study.

Cyberdyne Inc., Japan

The Japanese Cyberdyne Corporation was founded in 2004. Its business lines include the research and development of equipment in the areas of medical and welfare, rehabilitation and care personnel supports as well as assistance for human body functions of the elderly. Related businesses include leasing, sales and maintenance.

In 2009 the company developed the so-called “Robot Suit HAL” (hybrid assistive limb), which is a cyborg-type robot that can supplement, expand or improve physical capability for senior people.

When a person attempts to move, nerve signals are sent from the brain to the muscles via moto-neurons, moving the musculoskeletal system as a consequence. At this moment, very weak biosignals can be detected on the surface of the skin. “HAL” catches these signals through a sensor attached on the skin of the wearer. Based on the signals obtained, the power unit is controlled to move the joint in unison with the wearer’s muscle movement, enabling HAL to support the wearer’s daily activities. This is called a ‘voluntary control system’ that provides movement interpreting the wearer’s intention from the biosignals in advance of the actual movement. The robot not only has a voluntary control system, but also a robotic autonomous control system that provides human-like movement based on a robotic system which integrally works together with the autonomous control system. “HAL” is the world’s first cyborgtype robot controlled by this unique Hybrid System (Cyberdyne, 2013).

“Robot Suit HAL” for Well-being was created with the most recent technologies that could be utilized for welfare purposes. It assists the walking motion of a wearer who has difficulty in walking or who has weakened muscles. The robot can help the wearer achieve freedom and independence to stand and walk. It moves in accordance with the wearer’s intention. Fine adjustment of HAL is possible to match the wearer’s physical condition.

There are several innovative services offered for the “Robot Suit HAL” for well-being that have been configured. Accessories such as a dedicated PC to monitor HAL status or settings, battery charger, custom batteries and maintenance tools are supplied as well. Furthermore, the company executes regular maintenance of the robot. The supplied computer is connected with Cyberdyne for a remote support service. Repair or maintenance may be done using this remote support service online. Also, a Safe Use Training Program in order to start using Robot Suit HAL is

offered. The system may only be utilized (executing training or attaching HAL on a wearer) by the person who has successfully completed the training program. This exclusiveness underlines innovative services the product features.

Furthermore, "Robot Suit HAL" for Well-being is only available under a rental/lease system in Japan. Medical/welfare facilities can make a rental/lease contract. The robot is not available for individual use at the moment. Facilities interested in the rental of product can make a contract directly with Cyberdyne or through agents.

Additionally, "HAL" is expected to be applied in various fields such as rehabilitation support and physical training support in medical field, support for disabled people, heavy labour support at factories, and rescue support at disaster sites.

This case focuses on service innovations that have been exclusively developed to market it directly to the older people's segment (theory of pure service innovation). The innovative product itself has been developed very specific and tailored for the wants and needs of elder people. The combined innovative services that come along with the new technology have been exclusively and purely developed for primary use of seniors, so the theory of pure service innovation applies in this case study.

## CONCLUSION

This paper focuses on the opportunities that an increasing share of older customers offers for new service development and innovation regarding companies. The three different case studies of companies explore and explain the different strategic opportunities companies have to develop new service innovations along with innovative products for senior people. Additionally, it is shown how the three different selected strategic approaches of companies support and back-up three different theories of service innovation.

Technological innovativeness can combine innovative services with regard to offer final solutions, more value and propose solution selling for the attractive market segment silver agers. The object is that related services support the desire towards autonomy and independence of seniors as long as possible. This approach offers a long-term business model for the companies since the market segment will increase worldwide over the years.

Furthermore, this offers potential for companies to offer services and product platforms with different functions that can be adopted and adjusted over the life of the customers and users depending on the specific wants and needs in a particular period or time frame in life. Customer relationship management including customer loyalty can be increased since they do not have to change necessarily to new services and products in life. Clients rather can gradually adopt stepwise from one company to added functionality and specific individual solutions and services wanted at a particular time. This approach can increase synergy potential and positively influence the profitability of companies in times of the challenging

demographic change.

## REFERENCES

Emporia Telecom, 2013, Linz, Austria, [www.emporia.co.uk](http://www.emporia.co.uk), access March 2013.

Fujitsu, 2011, [www.fujitsu.com](http://www.fujitsu.com), access April 2013

Herstatt, C.; Kohlbacher, F., Bauer, P., 2011, „Silver“ product design – product innovation for older people, working paper 65, Technical University Hamburg, Hamburg

Kohlbacher, F.; Herstatt, C. (eds.), 2011, The silver market phenomenon, Berlin: Springer

Kohlbacher, F.; Hang, C., 2011, Applying the disruptive innovation framework to the silver market, *aging international*, 36, 82-101

Laukkannen, T. et al, 2007, Innovation resistance among mature consumers, *Journal of consumer marketing*, 24, 419-427

McEntegart, J., 2013, Fujitsu's smartphones for seniors coming to UK/US in 2013, in: [www.tomshardware.com](http://www.tomshardware.com), 02. January 2013, access March 2013.

Orlov, L., 2012, Technology for aging in place: market overview, [www.ageinplacetech.com](http://www.ageinplacetech.com), access April 2013.

United Nations, 2011, Department of Economic and Social Affairs, World Population Prospects, [www.un.org](http://www.un.org), access March 2013.

Wang, A. et al, 2011, the ADOPT-model: accelerating diffusion of proven technologies for older adults, *aging international*, 36, 29-45

# **SOCIAL NETWORKS AND COMPLAINTS MANAGEMENT IN THE AIRPORT MANAGEMENT SECTOR**

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## **ABSTRACT**

### **Purpose**

The main aim of this paper is to study the process of gathering complaint and its management through social networks, in order to analyse the opportunities and the weaknesses of this approach regarding customer loyalty.

### **Design/methodology/approach**

This paper is an empirical investigation that attempts to identify new trend in the complaint management by the help of social networks in the airport management sector. First, a comparison within a panel of European airports was developed, in particular, their customer listening channels. Second, a mystery shopping survey was carried out in order to understand the airport capacity to manage a specific complaint, with the aim to develop an effective and efficient management process.

## **FINDINGS**

This paper identifies the new tendencies of the airport management company that can be useful for planning strategies related to the improvement of customer loyalties through the use of social networks. In fact, social networks can be considered a faster and innovative path to gather complaints and suggestions by customers; in this way, airport management company can involve customers directly in problem solving. If the airport management company doesn't gather and manage complaints in an effective and efficient way it would result a negative word-of-mouth on traditional and on Web 2.0 channels. This phenomena, in particular, is stronger in social networks due to its virality. A good complaint management, also through social network, can improve the image and perception of the company and customer retention.

### **Originality and value**

This paper proposes an overall approach regarding complaint management and customer feedbacks, which enables integration of information from different innovative channels and tools in order to guarantee customer satisfaction, loyalty and retention.

**Keywords:** Social networks, Mystery shopping, Airport sector, Word of mouth, Complaints management.

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# STORYTELLING IN SERVICE – A CONCEPTUALISATION AND RESEARCH AGENDA

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## ABSTRACT

Despite the importance of stories and the potential that stories present in services, they have been largely ignored in service research. In this paper we point out various ways in which stories are, and could be, used in service marketing. The paper provides a brief overview of central aspects on stories and their effect on consumers. Future research directions are suggested.

## INTRODUCTION

Stories are told about services and services are created out of stories. Yet the potential of stories seems to have been largely ignored in the service marketing literature. Meanwhile, other marketing fields have embraced the potential of stories, as demonstrated, for example, in a special issue of *Psychology&Marketing* (Woodside 2010), brand stories (Lundqvist et al., 2013), ad stories (Escalas 2004, Söderlund and Dahlén 2010), and donations (Merchant et al. 2010). It is high time to analyze how service marketing could make better use of stories.

The entire service business, or part of the business, is often built on a story (Mossberg 2008). Yet, systematic research on the effect of stories on consumer service experience seems non-existent. The neglect is indeed puzzling, given several connections between service and stories. For example, the critical incident method, which generates consumer stories, has been much used in service research (Bitner et al. 1990, Gremler 2004), but seldom with the explicit view as stories (Gabbott and Hogg, 1996 Stern et al. 1998). Moreover, people are central to both stories and services, yet this connection remains to be fully explored.

We aim to demonstrate the potential that stories pose for service marketing and to set a research agenda for future studies. Questions that will be answered are: What kind of stories are there? How are stories transmitted in service? What are the effects of stories on consumers? What can service marketing learn from past research on stories? What further studies are needed in service?

Due to space restrictions, stories within organizations, further discussion of story effects, tables, additional references, and further examples, have been omitted from this paper.

## STORYTELLING AND SERVICE MARKETING

Here, we introduce stories how they are applied in service.

## Stories in marketing

A story is a narrative in which one particular person is in the foreground and in which he or she interacts with other persons during an event or the succession of events (Deighton et al. 1989). A marketing story is related to the experience of a good or service, or a claim about a company. The story may be true or fictional. A story answers the questions: who, what, why, where, when, how, and with the help of what. It has a beginning, middle and end, and the events unfold in a chronologically linear, or non-linear, time sequence, preferably with an unexpected twist. The conflict and its successful resolution are central to the story, and the audience should be able to identify with the characters (Mossberg & Nissen Johansen 2006). The story message should put the brand in a positive light (Shankar et al. 2001), and the end should be emotionally satisfying for the audience (Guber 2007).

### Types of stories: realism vs. fiction

A central element in stories is their truthfulness, or perceived realism. Stories can be based on real events or they can be fictive, but the story should be perceived as real (Busselle and Bilandzic 2008). There is a lack of empirical studies on the effect of real vs. made-up stories on consumer evaluations and behavior in commercial contexts, and especially in services. Many consumers are critical of what they perceive to be manipulative marketing. An entertaining story need not be true, but a deceptive story will eventually lead to loss of trust in the brand (Mossberg and Nissen Johansen 2006).

Fictive stories can be and are used by many service providers. It can be a design element or the foundation of the service. For example, some Italian style restaurants have invented stories of the founder and communicate it through the servicescape (Liljander and Gummerus 2013, Mossberg and Nissen Johansen 2006).

Other types of fiction, such as literary fiction and film, also inspire the creation of services, for example, the Hobbit Trail, the Moomin World, and guided tours based on crime books. Consumers can re-create the experience of the fiction by visiting central geographical locations and watching character re-enactments.

Epics and myths serve as the inspiration of service design. For example, the design hotel Klaus K in Helsinki has borrowed its name from a character in the Finnish national epic Kalevala and redecorated the servicescape to include elements of the epic (Mossberg 2008).

Real life stories and events are made into service experiences. For example, historical events are re-enacted for consumers (Chronis 008), and consumers may train to perform at the events themselves. People trail in the footsteps of Jack the Ripper, a famous murderer, whose story continues to fascinate people (<http://www.jacktheripperwalk.com/>). Others are drawn to certain cafés, because of the stories of the former patronage by famous authors, artists, and intellectuals.

Collecting consumer experienced stories

Service studies often collect stories from consumers, without explicitly calling them stories. Consumer stories are collected typically in the form of narratives (Delgadillo and Escalas 2004, Shankar et al. 2001), and memorable critical incidents (Bitner et al. 1990).

A narrative is defined as “a spoken or written text giving an account of an event/action or series of events/actions, chronologically connected” (Czarniawska 2004, p. 17). Consumers are believed to intuitively construct narratives out of ordinary life situations. All consumer-provided stories are narratives (Hertzenstein et al. 2011, Phillips and McQuarrie 2010, Stern et al. 1998). For example, word-of-mouth narratives include the sequence of events, thinking and feeling of the actors, causal explanations and goals to be achieved (Delgadillo and Escalas, 2004).

Narratives are contextual and capture the phenomenological experience of consumption in relation to life stories, thoughts and emotions (Wattanasuwan 2012). They are re-constructed in the interaction between the narrator and the listener each time the story is told (Chronis 2008, Wattanasuwan 2012), or read (Busselle and Bilandzic 2008). Narratives are collected through phenomenological interviews (Phillips and McQuarrie 2010), and other ethnographic methods (Chronis 2008).

In service research, narratives have been used to understand, for example, service relationships (Arnould and Price 1993), service brand image (Padgett and Allen 1997) perceived service value (Helkkula and Kelleher 2010), and service recovery (Edvardsson et al. 2011).

Consumer stories of memorable events can be collected with the critical incident technique (CIT) (Gremler 2004). An incident includes a beginning, middle, and end, and, thereby, fits the definition of a story. Consumers describe what led up to the incident, what the employees did, and how the incident ended, or was resolved (Bitner et al., 1990). In satisfactory incidents the employee resolves the problem to the customer's satisfaction (Bitner et al. 1994, Bitner et al. 1990). Critical incident stories can bring out employees and customers as heroes.

In stories of service recovery, a story plot is often present since a problem has occurred and been solved. However, the factors that affected the recovery, and not the story plot, are usually focused on.

## HOW ARE STORIES TRANSMITTED?

Firms transmit stories by telling them in ads (Escalas 2004, Söderlund and Dahlén 2010), on the web, and in service encounters (Chronis 2008, Lundqvist et al. 2013), including the servicescape (Baron et al. 2001, Mossberg, 2008), and dramatic enactments (Grove et al. 1992). Stories are also transmitted by word-of-mouth (Delgadillo and Escalas 2004).

An obvious way to transmit stories is through the web pages, but it seems that firms are not taking full advantage of the possibilities. For example, with a few exceptions, few historically important cafés or restaurants

present their stories on the web.

## Advertising

Advertising research has paid much attention to the effect of stories in ads. Attention has been given to, for example, the effectiveness of the structure and sequence of narratives ads (Escalas et al. 2004, Loewenstein et al. 2011), and the drama content of ads (Deighton et al. 1989). In service contexts, a narrative organization vs. listed information resulted in more positive attitudes and intended behavior for promotions of vacations (Adaval and Wyer Jr. 1998) and restaurants (Mattila 2000).

Being absorbed by the story and experiencing narrative transportation have positive effects on consumers' experience (Phillips and McQuarrie 2010). Moreover, even ghoulish stories can positively affect consumer attitudes toward the ad and the brand (Söderlund and Dahlén 2010).

There seems to be a paucity of studies on stories in service advertising. A recent review of service advertising research supports this (Royne Stafford et al. 2011). It is surprising, since story-based messages are particularly suited for the promotion of services due to their ability to communicate both symbolic and experiential components, which are important in service consumption (Padgett and Allen 1997).

## Service encounters

Service workers have been compared with actors who perform service drama in the service encounter (Grove et al. 1992). Dramatic enactment of characters and stories are common in theme parks (Jørgensen 2011), but even ordinary service encounters can be viewed as drama. Retailers frequently refer to stores as retail theater (Baron et al. 2001), and service encounters are perceived and designed as dramatic performances (Harris et al. 2011). During the performance, there are opportunities to tell stories about the service to customers. For example, the personnel in Kiehl's cosmetics stores are trained to tell the story of each product. Stories are told also through the servicescape.

## HOW DO STORIES AFFECT CUSTOMERS?

Stories affect customers before, during, and after the purchase. Stories are experienced through all of the senses and affect customers cognitively, emotionally and behaviorally. Hence, we assume that stories increase customer engagement in the service (Brodie and Hollebeek 2011, Gummerus et al. 2012, van Doorn et al. 2010).

Stories appeal to consumers by activating memories, experiences (Chronis 2008), and emotions (Escalas 2004). Perhaps due to the generation of feelings, stories are perceived as more convincing than facts. When people identify with and are transported into the story (Phillips and McQuarrie 2010), their enjoyment (Busselle and Bilandzic 2008), and likelihood of seeking out the same experience again increase (Green et al. 2004).

In addition, stories generate word-of-mouth. The episodic nature of a story increases the likelihood that consumers will remember it and pass it along (Mossberg 2006).

## CONCLUSION AND FUTURE RESEARCH DIRECTIONS

Apart from advertising studies, the literature on storytelling in service has been conceptual, with practical examples and case descriptions. Business examples provide valuable information on the use of storytelling in practice, but do not entirely fill the gap on how stories can be used in service management and marketing, and the effect of stories on customer experience and engagement. Based on our review of the literature, we suggest the following avenues for future research:

Case studies can be used to understand how stories are incorporated into the focal service, but a deeper analysis is needed on the consequences for business and customers. What is the value for customers, how do they interact with the story, and what does the story mean to them? Also, it is important to learn from companies that do not currently use stories although they could. Do some companies make a conscious decision not to link existing stories to their service in market communication and, if so, why?

In service research there is a rich tradition of collecting customer and employee stories, but to what extent are they used in service communication, in written or oral form, and how does it affect customer responses, such as perceived image, service quality, value, attitude, repurchase, and word-of-mouth? Further to what extent are these stories used in internal marketing?

A central tenet in interpretive advertising research is that consumer interpretations differ and that the consumer constructed meaning may not be the one intended by the advertising firm. Like ads, stories are interpreted from the audience's context. Consumers construct different meanings from the same story and will likely remember the entire story and its parts differently. There is a lack of studies on consumer interpretation of stories in promotional material and service encounters, and how it affects the service relationship.

Should stories be simple and straightforward, so that as many customers as possible perceive the intended message, or more complex to provide room for consumers to re-construct the story (Chronis 2008). For example, when the service encounter is viewed as drama with actors (the employees), an audience (the customers), and a setting (the servicescape), employees may be trained and rehearsed like actors, but they should not perform identical behaviors for all customers (Grove et al. 1992). A firm-crafted story that is told orally might differ between customers, who when retelling the story will change it further by adding their own interpretation to it. We know of no studies that would have investigated the effect of standardized vs. non-standardized stories on consumer experience. Adapting the stories requires flexibility, empowerment, and skills.

People are guided by their inner awareness of what constitutes a coherent

story and constantly test the narrative fidelity of the story (Fisher 1984, p.8). Research is needed on the differences between consumers' interpretations of stories, story realism, and its consequences for the service experience and evaluation. What are the boundaries for using fictive vs. authentic stories? For example, are fictive stories more suitable for hedonic than utilitarian services?

Further, are firm-created fictive stories about the company more acceptable than fictive consumer stories, or is it context dependent? Fictive consumer stories abound in advertising, where we tend to expect and accept them, whereas the reaction might be quite different if an employee-told consumer story were revealed to be invented.

Many factors, such as personal characteristics, identifying with the story, its characters and values, and the service context, may affect customers' responses. Customers' evaluation of stories may vary depending on who the protagonist is, such as the firm and its employees, in general, or an individual employee or customer. Consequently, research is needed on customer identification with service stories, the perceived realism of the stories, and how they affect cognitive, affective and behavioral responses.

To comprehend the story, consumers need to make a deictic shift from experiencing reality to experiencing the story from within (Busselle and Bilandzic 2008). Being transported into the story leads to more favorable evaluations of the protagonist and raises story-consistent beliefs for both fact and fiction (Green and Brock 2000). Are there differences in transportation between oral and textual stories? Moreover, it seems plausible that some story effects are transient, engaging customers only while they are consuming the service, whereas other stories have more lasting effects. What characterizes a good story? Should the story be dramatic, humorous, or thrilling?

Finally, According to Chronis (2008), the role of the listener in the success of stories has been largely overlooked. Stories should be adapted to the consumer's previous knowledge. How will customers react if the same story is told twice, or more often, by the same employee, or different employees, on different occasions? Can overemphasizing the story have a negative effect on returning customers?

## REFERENCES

- Adaval, R. and Wyer Jr., R. S. (1998), "The role of narratives in consumer information processing". *Journal of Consumer Psychology*, 7, 3, pp. 207-245.
- Arnould, E. J. and Price, L. L. (1993), "River magic: Extraordinary experience and the extended service encounter". *Journal of Consumer Research*, 20, June, pp. 24-45.
- Baron, S., Harris, K. and Harris, R. (2001), "Retail theatre: The 'intended effect' of the performance". *Journal of Service Research*, 4, 2, pp. 102-117.

Bitner, M. J., Booms, B. H. and Mohr, L. A. (1994), "Critical service encounters: The employee's viewpoint". *Journal of Marketing*, 58 (October), pp. 95-106.

Bitner, M. J., Booms, B. H. and Tetreault, M. S. (1990), "The service encounter: Diagnosing favorable and unfavourable incidents". *Journal of Marketing*, 54, January, pp. 71-84.

Brodie, R. J. and Hollebeek, L. D. (2011), "Advancing and consolidating knowledge about customer engagement". *Journal of Service Research*, 14, 3, pp. 283-284.

Busselle, R. and Bilandzic, H. (2008), "Fictionality and perceived realism in experiencing stories: A model of narrative comprehension and engagement". *Communication Theory*, 18, 2, pp. 255-280.

Chronis, A. (2008), "Co-constructing the narrative experience: Staging and consuming the american civil war at gettysburg". *Journal of Marketing Management*, 24, 1-2, pp. 5-27.

Czarniawska, B. (2004), *Narratives in social science research*, London, Sage Publications.

Deighton, J., Romer, D. and Mcqueen, J. (1989), "Using drama to persuade". *Journal of Consumer Research*, 16, 3, pp. 335-343.

Delgadillo, Y. and Escalas, E. J. (2004), "Narrative word-of-mouth communication: Exploring memory and attitude effects of consumer storytelling". In: KAHN, B. E. & LUCE, M. F. (eds.) *Advances in consumer research*. Association for Consumer Research Valdosta, GA.

Durgee, J. F. (1988), "Commentary. On cézanne, hott bottons and interpreting consumer storytelling". *Journal of Consumer Marketing*, 5, 4, pp. 47-51.

Edvardsson, B., Tronvoll, B. and Höykinpuro, R. (2011), "Complex service recovery processes: How to avoid triple deviation". *Managing Service Quality* 21, 4, pp. 331-349.

Escalas, J. E. (2004), "Imagine yourself in the product. Mental simulation, narrative transportation, and persuasion". *Journal of Advertising*, 33, 2, pp. 37-48.

Escalas, J. E., Moore, M. C. and Britton, J. E. (2004), "Fishing for feelings? Hooking viewers helps!". *Journal of Consumer Psychology*, 14, 1-2, pp. 105-114.

Fisher, W. R. (1984), "Narration as a human communication paradigm: The case of public moral argument". *Communication Monographs*, 51, 1, pp. 1-18.

Gabbott, M. and Hogg, G. (1996), "The glory of stories: Using critical incidents to understand service evaluation in the primary healthcare

context". *Journal of Marketing Management*, 12, 6, pp. 493-503.

Green, M. C. and Brock, T. C. (2000), "The role of transportation in the persuasiveness of public narratives". *Journal of Personality and Social Psychology* 79, 5, pp. 701-721.

Green, M. C., Brock, T. C. and Kaufman, G. F. (2004), "Understanding media enjoyment: The role of transportation into narrative worlds". *Communication Theory*, 14, 4, pp. 311-327.

Gremler, D. D. (2004), "The critical incident technique in service research". *Journal of Service Research*, 7, 1, pp. 65-89.

Grove, S. J., Fisk, R. P. and Bitner, M. J. (1992), "Dramatizing the service experience: A managerial approach". In: SWARTZ, T. A., BOWEN, D. E. & BROWN, S. W. (eds.) *Advances in service marketing and management*. Greenwich, Connecticut: JAI Press Inc.

Guber, P. (2007), "The four truths of the storyteller". *Harvard Business Review*, 85, 12, pp. 52-59.

Gummerus, J., Liljander, V., Weman, E. and Pihlström, M. (2012), "Customer engagement in a facebook brand community". *Management Research Review*, 35, 9, pp. 857-877.

Harris, K., Harris, R., Elliott, D. and Baron, S. (2011), "A theatrical perspective on service performance evaluation: The customer-critic approach". *Journal of Marketing Management*, 27, 5/6, pp. 477-502.

Helkkula, A. and Kelleher, C. (2010), "Circularity of customer service experience and customer perceived value". *Journal of Customer Behaviour*, 9, 1, pp. 37-53.

Hertzenstein, M., Sonenshein, S. and Dholakia, U. M. (2011), "Tellmeagoodstory and i may lend youmoney: The role of narratives in peer-to-peer lending decisions". *Journal of Marketing Research*, XLVIII Special Issue, pp. 138-149.

Jørgensen, K. (2011), "Fiksjon og dramaturgi som verktøy (fiction and drama as tools)". In: EIDE, D. (ed.) *Turisme basert på fortelling, bøger og film (tourism based on stories, books and film)*. Bodø: University in Nordland, Bodø Business School, Norway.

Liljander, V. and Gummerus, J. (2013), "Global perspectives on service: Do you want to enhance customer experience? Tell a story! (section of ch. 16)". In: FISK, R. P., RUSSELL-BENNETT, R. & HARRIS, L. C. (eds.) *Serving customers: Global services marketing perspectives*. Derrimut, Australia: Tilde University Press (Palgrave Macmillan).

Loewenstein, J., Raghunathan, R. and Heath, C. (2011), "The repetition-break plot structure makes effective television advertisements". *Journal of Marketing*, 75, September, pp. 105-119.

Lundqvist, A., Liljander, V., Gummerus, J. and Van Riel, A. C. R. (2013), "The impact of storytelling on the consumer brand experience: The case of a firm-originated story". *Brand Management Journal*, pp. forthcoming.

Mattila, A. S. (2000), "The role of narratives in the advertising of experiential services". *Journal of Service Research*, 3, 1, pp. 35-45.

Merchant, A., Ford, J. B. and Sargeant, A. (2010), "Charitable organizations' storytelling influence on donors' emotions and intentions". *Journal of Business Research*, 63, 7, pp. 754-762.

Mossberg, L. (2008), "Extraordinary experiences through storytelling". *Scandinavian Journal of Hospitality and Tourism*, 8, 3, pp. 195-210.

Mossberg, L. and Nissen Johansen, E. (2006), *Storytelling: Marknadsföring i upplevelseindustrin (storytelling: Marketing in the experience industry)*, Göteborg, Studentlitteratur.

Padgett, D. and Allen, D. (1997), "Communicating experiences: A narrative approach to creating service brand image". *Journal of Advertising*, 26, 4, pp. 49-62.

Phillips, B. J. and Mcquarrie, E. F. (2010), "Narrative and persuasion in fashion advertising". *Journal of Consumer Research*, 37, October, pp. 368-392.

Royne Stafford, M. B., Reilly, T., Grove, S. J., Carlson, L., Bhandari, R. and Copeland, J. (2011), "The evolution of service advertising in a service-driven national economy. An analysis of progress and missed opportunities". *Journal of Advertising Research*, 51, 1, pp. 136-152.

Shankar, A., Elliot, R. and Goulding, C. (2001), "Understanding consumption: Contributions from a narrative perspective.". *Journal of Marketing Management*, 17, 3/4, pp. 429-453.

Söderlund, M. and Dahlén, M. (2010), "The "Killer" Ad: An assessment of advertising violence". *European Journal of Marketing*, 44, 11, pp. 1811-1838.

Stern, B. B., Thompson, C. J. and Arnould, E. J. (1998), "Narrative analysis of a marketing relationship: The consumer's perspective". *Psychology & Marketing*, 15, 3, pp. 195-214.

Van Doorn, J., Lemon, K. N., Mittal, V., Nass, S., Doreén, P., Pirner, P. and Verhoef, P. C. (2010), "Customer engagement behavior: Theoretical foundations and research directions". *Journal of Service Research*, 13, 3, pp. 253-266.

Wattanasuwan, K. (2012), "Narrative: An alternative to gain consumer insight". *Journal of American Academy of Business*, 18, 1, pp. 130-136.

Woodside, A. G. (2010). Brand-consumer storytelling theory and research: Introduction to special issue. *Psychology & Marketing*, 27, pp. 531-540.

Woodside, A. G., Sood, S. and Miller, K. E. (2008), "When consumers and brand talk: Storytelling theory and research in psychology and marketing". *Psychology&Marketing*, 25, 2, pp. 97-145.

# TECHNOLOGY LED MARKETING CHANGE: ASSESSING INVESTMENT TO ENSURE THAT IT REALIZES ITS FULL BENEFITS

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## CONFLICTED MARKETING SCHOLARSHIP

Almost 30 years ago, Berry presented a paper at the AMA Service Marketing Conference entitled “Relationship Marketing” marking the first time that this term appeared in academic publication (Berry 2002). It catalysed a rethinking of marketing, spawning a transformation (Parvatiyar & Sheth 1997; Gronroos 1994) from its roots in economics - explaining exchange (Bagozzi 1975; Kotler 1972), to a social phenomenon whose ultimate goal is to co-ordinate resources with customers in the creation of use-value (Vargo & Lusch 2004).

Information systems<sup>1</sup> (IS), particularly customer relationship management (CRM) systems, enable and are necessary for the implementation of Relationship Marketing (Peelen et al. 2009). Yet, researchers remain conflicted when identifying the financial impact of CRM. Managers equally question the value of their CRM investments (Homburg et al. 2007; Srinivasan & Moorman 2005; Ryals 2005) despite almost universal adoption (Payne 2006). Operations and IS researchers conclude that CRM alone neither impacts business performance nor share price (Hendricks et al. 2007). If CRM is so widespread, and the relationship marketing it facilitates such a dominant managerial practice, then why are scholars still unsure if it even works?

This discussion is particularly relevant when so many companies are planning IT led marketing investments in social media, analytics, business intelligence and “big data”<sup>2</sup>: will marketing scholars be having a similar discussion in 10-30 years time about the return on these initiatives too?

## COMPARING MARKETING AND IS PERSPECTIVES ON CRM'S EFFECTIVENESS

We review the published empirical explanations as to the impact of CRM investment upon business performance as follows. EBSCO and ProQuest electronic databases were searched against the key terms of “CRM”, “Relationship Marketing”, “ROI”, “ROA”, “business performance” or “financial return”. For financial performance we include studies of ROI,

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<sup>1</sup> The abbreviations IT (Information Technology) and IS (Information Systems) are used interchangeably in literature. The authors use the later to highlight that it is not technology alone that improves business practices.

<sup>2</sup> The term big data refers to the phenomenon that customer generated data together with video, blog and social media data join behaviour and attitudinal data to create a complex data set whose constituents cannot easily be stored in a single data structure and are therefore difficult to analyse.

ROA or profit: absolute levels thereof, changes due to the investment or comparisons against competitors or industry averages. For market performance we include market share, competitive position or incremental sales attributable to CRM investment. We exclude studies that define performance exclusively by intermediate marketing objectives such as loyalty, recommendation, engagement, commitment or satisfaction. We restricted our study to high impact journals in General Management, Marketing, Operations, IS and Marketing Science Institute (MSI) reports. We include the one published study that illustrates real option pricing so as to explore a method from financial theory. Marketing journals are: Journal of Marketing, Journal of the Academy of Marketing Sciences, Journal of Service Research, and Journal of Marketing Research. Captured under the rubric of marketing were one study each from Journal of Business Research and Long Range Planning. From an IS, IS Operations perspective this includes Management Information Systems Quarterly, Journal of Operations Management, Journal of Information Management and two from Management Science that we classify as "IS" due to the authors and subject matter. We exclude a plethora of articles that identify "how to improve CRM performance" that do not provide empirical analysis of the link between CRM and performance. Table 1 lists the marketing studies included in the study, the IS articles are identified later.

## ASSESSING CRM RETURNS IN THE MARKETING LITERATURE

If there is agreement amongst the marketing studies, it is that it is difficult to attribute business performance to CRM directly; mostly it enables the development of improved marketing capabilities that subsequently improve business performance (Appendix 1). Benefits from CRM investment are layered and contextualised by the objectives of the managers and social relationships with customers. CRM provides data and operational capability with which marketers can augment relationships, insight and imagination to build strategic dynamic capabilities that leads ultimately to enhanced business performance (Henderson & Cockburn 1994; Zollo & Winter 2002; Teece 2007).

Appendix 2 reveals that in the 12 marketing studies analysed, only one makes a strong claim that CRM improves performance in most cases (Krasnikov et al. 2009), one that its impact is sometimes positive (Palmatier & Gopalakrishna 2005) and two find no systematic link between CRM and performance. However, nine find that CRM's impact is mediated by either the development of dynamic capabilities for managing customers (seven) or firm strategy (two).

Scholars rarely contextualise the objectives of CRM with the notable exceptions of Reinartz et al (2004) and Reimann (2010). Whilst the management literature suggests that CRM must align to business strategy, none of our selected studies sample for industry and competitive contexts, and firms marketing objectives' may be as different as their individual strategies as much as they reflect industry factors.

CRM assessment is based largely upon self-reported data that requires

substantial judgment on the part of respondents and entails considerable risk of measurement error (e.g. Sharma et al. 2009; Burton-Jones 2009; Podsakoff et al. 2003; Cote & Barnett 1987) despite mitigation strategies or statistical tests from which authors may assert common measurement error is not evident (Burton-Jones 2009). Mezas and Starbucks (2003) present empirical evidence that managers are generally poor at assessing their environment and performance relative to it; consistent with Behavioural Decision Making which concludes that managers make decisions more on the basis of heuristics than with accurate assessments (Maule & Hodgkinson 2003). These heuristics lead to cognitive biases that do not correct over time (Tversky & Kahneman 1974).

## ASSESSING CRM RETURNS FROM AN IS PERSPECTIVE

The relevant IS literature (Appendix 3) focuses upon the returns across different types IS investment of which CRM is one amongst other enterprise-wide systems (Hendricks et al. 2007). It parallels marketing in two aspects. Early research generated inconclusive results (Seddon et al. 2011; Goh & Kauffman 2005; Brynjolfsson & Hitt 2000; Bharadwaj et al. 1999) and it coalesces on a resource-based view; CRM technology itself does not generate return, rather it is the development of the associated dynamic capabilities that matters. However, whilst Marketing scholarship generates scales of customer-relating capabilities, IS research identifies the complementary assets (Hughes & Scott Morton 2006; Melville et al. 2004), business process change (Brynjolfsson & Hitt 2000) and strategic flexibility (Bharadwaj et al. 1999) resulting from IS investment that improves business performance.

IS scholars also focus on the process of how these capabilities will be developed and expected benefits realised (Mithas et al. 2011; Braun et al. 2010; Ashurst & Hodges 2010; Santhanam & Hartono 2003). It acknowledges the role of strategy and the competitive environment in their research, something that surprisingly is under-represented in Marketing's scholarship.

The IS literature considers simple input-output ratios, such as ROI, suspect (Kohli & Grower 2008), particularly when output is defined through short term, accountancy measures and the input measured fails to capture the full extent of the organizational development required for IS-led change (Brynjolfsson & Hitt 1998). IS scholars acknowledge the need to value strategic flexibility (Benaroch 2002; Bharadwaj et al. 1999), the significant time lag between investment and benefit realization (Seddon et al. 2011; Devaraj & Kohli 2000; Brynjolfsson & Hitt 2000) and the contingent or non-automatic harvesting of any expected value (Goh & Kauffman 2005; Melville et al. 2004). CRM benefits have been profiled by IS scholars as first generating operational improvements in customer analysis, channel management and service quality that provides a platform for subsequent strategic changes in customer relationships that can unlock larger customer and company value (Hughes & Morton 2006; Peppard & Ward 2005) such as more focused targeting of promotion and personalization.

In our review of literature, the surveys asking managers to assess their

CRM returns rarely account for the maturity of the CRM investment in question, a limitation of cross-sectional data acknowledged by Ernst et al. (2010). Whilst most marketing studies assume a time lag between investment and return, it is rarely discussed in detail and almost always a matter of quarters, whereas IS scholars suggest that maximising the benefits of investments takes several years (Brynjolfsson & Hitt 1998; Goh & Kauffman 2005; Peppard & Ward 2005; Hendricks et al. 2007).

CRM investment is therefore operationalised by IS scholars as having latent benefits, developing over time as a function of the strategic options exercised. Competitive advantage arises from a benefits realisation dynamic capability comprising the management of complementary resources, partners and an ability to retain the quality and productivity benefits generated (Mithas et al. 2011; Braun et al. 2010; Ashurst & Hodges 2010; Melville et al. 2004; Santhanam & Hartono 2003).

## MAJOR DIFFERENCES IN SCHOLARSHIP

Scholarship into assessing CRM returns differs in the following fundamental areas:

### 1. Choice of Methods

All but one marketing article in our study, models CRM benefits with SEM, PLS or regression. The IS literature shows more diversity; still nine of 14 use models (two SEM, five regression and two simulations) but this is supplemented with case study, content analysis and action research. An even starker contrast is in marketing scholarship's reliance on cross sectional data (seven studies) versus IS (one study) which favours longitudinal analysis. Cross sectional data, obtained through survey does not align with IS scholars' understanding of benefits realisation, i.e. the latent or contingent nature of IS benefits that suggests longitudinal data is required.

### 2. Ontological Perspective

Related to the above epistemological difference, IS scholars have long recognized the socio-technical nature of information systems (Checkland 2000; Mumford 2000) where human agency plays a central role (Orlikowski & Baroudi 1991). The IS discipline deploys a wider variety of theoretical lens such as structuration theory (Giddens 1984), media richness theory (Daft and Lengel 1986) and actor network theory (Akrich 1992; Latour 1987) to examine IS investments within organizations and understand and interpret their consequences. Prescriptions emanating from IS research emphasize the careful management of organizational changes if expected benefits are to be achieved (Peppard et al 2007).

In contrast, marketing research often objectifies CRM, conceptualising it as something that can be isolated from its organizational and human context. By doing this, studies seek to posit a direct relationship between investment in CRM and organizational performance, a perspective that is commensurate with a positivist orientation. IS research adopts what it sees as a more appropriate ontological basis, grounding studies in, for example,

social constructivist or interpretive perspectives. Knowing is characterised as mediated, situated, provisional, pragmatic and contested (Blackler 1995) that is hard to capture with survey-based methods. This perspective treats CRM software and its associated practices as elements of a wider socio-technical system. Marketing does not embrace, to the same extent, the systemic approach to changes initiated by the introduction of new technology.

### 3. The Treatment of Method Errors

Marketing scholarship's strong reliance on surveys of single informants who must assess their firm's processes, capabilities and performance versus competitors strikes the authors as problematic. Common method errors arise when asking one respondent to assess both independent and dependent errors in one data gathering exercise. Cote and Barnett (1987) warn that measurement error is "omnipresent" in social science research (p. 315). Whilst researchers suggest numerous ways of minimising common method error, they can only agree on aspects of good practice and concur that no test of its absence (e.g. Harmon one factor) should be considered conclusive (Cote & Barnett 1987; Bagozzi & Yi 1991; Podsakoff et al. 2003; Sharma et al. 2009). Amongst our selected marketing articles, ten asked informants to rate independent and dependent variables, one just built a scale and hence lacks a truly dependent variable; nine studies are worthy of consideration for common method error (see Appendix 4).

This picture exists in sharp contrast with that from the IS studies we analysed. Of the 12 studies, only one uses single informant survey as its sole collection vehicle (Braun et al. 2010) Other models are built using an eclectic set of sources, and particularly make use of either operational data generated from IS systems in the case of health industry studies (e.g. Davaraj and Kohli -2003), publically available financial data (e.g. Hendricks et al – 2007, Bharadwaj et al -1999) and even Baldrige Quality award submissions in the case of Mithas et al (2011).

### 4. The Central Role of Management

Actively managing the systemic impact of new technology is central to IS and absent in the marketing articles reviewed aside from a familiar call for top-management commitment. This difference is odd as both literatures accept that there is limited value in CRM technology, benefits are generated by changes in customer relationships and the dynamic capabilities around managing them. In fairness to marketing scholarship, if one looks carefully at the scales used in modelling, the role of management can be divined, however, the discourse is not central to marketing's story telling. In contrast, IS scholars encourage IS professionals to take a managerial perspective to IS systems rather than a professional one and, as such, promote an enhanced role for IS in strategic decision-making.

## IMPLICATIONS FOR RESEARCH AND PRACTICE

If after 30 years, marketing scholarship remains conflicted over the return on CRM investment, it may be time to reconsider its approaches

to assessing benefits. The phenomenon of CRM demands that we focus upon firms' investment objectives and the quality of benefit realisation management. We propose that an epistemology where managers are central to our research will generate a body of knowledge that both builds confidence in assessing the business impact of CRM investment and guide subsequent waves of IS led marketing activity such as social media and the exploitation of big data. We propose three characteristics of such a managerial relevant epistemology for future research into CRM effectiveness, if not IS led marketing investment effectiveness:

1. Measures of business performance need to at least distinguish between operational and strategic benefits of the investment. The IS literature explicitly deals with the optionality of CRM investment and the latency of its benefits. We believe that most firms seek a unique combination of operational and strategic benefits from CRM investment and therefore benefits should ideally be assessed uniquely to reflect each firm's mix.

2. In addition to the mix of operational and strategic benefits, organizations have unique marketing objectives that evolve over time as they learn from customers and change their strategies. CRM managers (or equivalent expert informants) should not be surveyed through a universal scale that probes for benefits that the organization is not necessarily trying to achieve and conversely, may fail to identify benefits that it is targeting. At the minimum, statistical research should group CRM programmes by assessing its primary objective, operational or strategic, and collect data with appropriate instruments. Qualitative and case based research will find it easier to customise the data collection and may provide important findings that we suggest are largely overlooked with limited modelling foci.

3. Longitudinal data is preferable to cross sectional given that CRM investment generates first operational, and then strategic benefits. Each step, from building systems, to gathering data, analysis, responding to insight and consumer response takes time. The length of this cycle varies greatly across industries (Maklan et al. 2011). In addition, gathering years of publicly reported performance data is a prudent means of addressing common method error and generates a more robust assessment of business performance versus asking informants how well their CRM programs are doing versus competitors.

This agenda reveals our belief that an epistemology of practice can complement and enrich marketing scholarship's expert use of modelling and development of generalizable findings. Given the almost universal adaption of CRM, further ex-post determination of its ROI may not be as important as helping managers identify and then manage its potential benefits. Essentially, the assets are in place but CRM benefit realisation has not yet received sufficient attention in our research.

From a managerial perspective, marketers seeking Board approval to CRM investments face a conundrum: they cannot really determine the benefits of their proposals before they learn from the initial stages of its implementation. We are concerned that this forces managers to develop business cases based on levels of incremental revenue that merely justify the required ROI

and are not grounded in customer needs. This typically encourages CRM to focus upon selling more to existing customers rather than understanding their needs and wants and developing innovative solutions. Real learning may be ignored in a rush to generate the target incremental cash flow compromising the development of dynamic capabilities required to achieve important strategic benefits of the investment. The logic of a simplistic ROI focused approach to accountability has the unintended consequence of reducing CRM's full potential to generate returns.

Organizations are investing heavily in the next wave of IS-led marketing change and we are concerned that marketing's approach to CRM research is being replicated for the assessment of investment in social media and big data. Commercially sponsored surveys focus on establishing the ROI and identify the familiar nostrums of success: top management commitment, clear business strategy and development of new capabilities. Our challenge as marketing scholars is to learn and apply the lessons from CRM and learn from IS scholars so that we may better advise today's IS-led marketing practice developments.

## REFERENCES

Ashurst, C. & Hodges, J., 2010. Exploring Business Transformation: The Challenges of Developing a Benefits Realization Capability. *Journal of Change Management*, 10(2), p.217–237.

Bagozzi, R., 1975. Marketing as Exchange. *Journal of Marketing*, 39(4), p.32–39.

Bagozzi, R. & Yi, Y., 1991. Multitrait-Multimethod Matrices in Consumer Research. *Journal of Consumer Research*, 17, p.426–439.

Benaroch, M., 2002. Managing Information Technology Investment Risk: A Real Options Perspective. *Journal of Management Information Systems*, 19(2), p.43–84.

Berry, L., 2002. Relationship Marketing of Services - Perspectives from 1983 and 2000. *Journal of Relationship Marketing*, 1, p.59–77.

Bharadwaj, A., Bharadwaj, S. & Konsynski, B., 1999. Technology Effects on Firm Performance as Measured by Tobin's q. *Management Science*, 45(6), p.1008–1024.

Braun, J., Mohan, K. & Ahlemann, F., 2010. How Benefits from IS/IT Investments are Successfully Realized: The Role of Business Process Know How and Benefits Management Practice. In *ICIS 2010 Proceedings*. St Louis, pp. 1–13.

Brynjolfsson, E. & Hitt, L., 2000. Beyond Computation: Information Technology, Organizational Transformation and Business Performance. *Journal of Economic Perspectives*, 14(4), p.23–48.

Brynjolfsson, E. & Hitt, L., 1998. Beyond the Productivity Paradox.

Communications of the ACM, 4(8), p.49–55.

Burton-Jones, A., 2009. Minimizing Method Bias Through Programmatic Research. *MIS Quarterly*, 33(3), p.445–471.

Chang, W., Park, J.E. & Chaib, S., 2010. How does CRM technology transform into organizational performance? A Mediating Role of Marketing Capability. *Journal of Business Research*, 63(8), p.849–855.

Checkland, P., 2000. Soft Systems Methodology: A Thirty Year Retrospective. *Systems Research and Behavioral Science*, 17, p.11–58.

Cote, J. & Barnett, R., 1987. Estimating Trait, Method, and Error Variance: Generalizing Across 70 Construct Validation Studies. *Journal of Marketing Research*, 24, p.315–318.

Day, G. & Van den Bulte, C., 2002. Superiority in Customer Relationship Management: Consequences for Competitive Advantage and Performance, Cambridge, Mass: MSI.

Devaraj, S. & Kohli, R., 2000. Information Technology Payoff in the Health-Care Industry: A Longitudinal Study. *Journal of Management Information Systems*, 16(4), p.41–67.

Ernst, H. et al., 2010. Customer Relationship Management and Company Performance—the Mediating Role of New Product Performance. *Journal of the Academy of Marketing Science*, 39(2), p.290–306.

Giddens, A., 1984. *The Constitution of Society: Outline of the Theory of Structuration*, Berkley: University of California Press.

Goh, K.H. & Kauffman, R., 2005. Towards a Theory of Value Latency for IT Investments. In *Proceedings of the 38th Hawaii International Conference on Systems Sciences*. Hawaii: IEEE, pp. 1–9.

Gronroos, C., 1994. Quo Vadis, Marketing? Toward a Relationship Marketing Paradigm. *Journal of Marketing Management*, 10(5), p.347–360.

Henderson, R. & Cockburn, I., 1994. Measuring Competence? Exploring Firm Effects in Pharmaceutical Research. *Strategic Management Journal*, 15, p.63–84.

Hendricks, K.B., Singhal, V.R. & Stratman, J.K., 2007. The Impact of Enterprise Systems on Corporate Performance: A Study of ERP, SCM, and CRM System Implementations. *Journal of Operations Management*, 25(1), p.65–82.

Homburg, C., Grozdanovic, M. & Klarmann, M., 2007. Responsiveness to Customers and Competitors: The Role of Affective and Cognitive Organizational Systems. *Journal of Marketing*, 71, p.18–38.

- Hughes, A. & Morton, S., 2006. The Transforming Power of Complementary Assets. *Sloan Management Review*, 47(4), p.50–58.
- Jain, R., Jain, S. & Dhar, U., 2007. CUREL: A Scale for Measuring Customer Relationship Management Effectiveness in Service Sector. *Journal of Services Research*, 7(1), p.37–58.
- Jayachandran, S., Hewett, K. & Kaufman, P., 2004. Customer Response Capability in a Sense-and-Respond Era: The Role of Customer Knowledge Process. *Journal of the Academy of Marketing Science*, 32(3), p.219–233.
- Kohli, R. & Grower, V., 2008. Business Value of IT: An Essay on Expanding Research Directions to Keep up with the Times. *Journal of the Association for Information Systems*, 9(1), p.23–39.
- Kotler, P., 1972. A Generic Concept of Marketing. *Journal of Marketing*, 36(2), p.46–54.
- Krasnikov, A., Jayachandran, S. & Kumar, V., 2009. The Impact of Customer Relationship Management Implementation on Cost and Profit Efficiencies: Evidence from the U.S. Commercial Banking Industry. *Journal of Marketing*, 73, p.61–76.
- Maklan, S., Knox, S. & Peppard, J., 2011. Why CRM Fails - and How to Fix it. *MIT Sloan Management Review*, 52(4), p.77–85.
- Maule, A.J. & Hodgkinson, G.P., 2003. Re-appraising Managers' Perceptual Errors: A Behavioural Decision-Making Perspective. *British Journal of Management*, 14(1), p.33–37.
- Melville, N., Kraemer, K. & Gurbaaxani, V., 2004. Review: Information Technology and Organizational Performance: An Integrative Model of IT Business Value. *MIS Quarterly*, 28(2), p.283–322.
- Mezias, J.M. & Starbuck, W.H., 2003. Studying the Accuracy of Managers' Perceptions: A Research Odyssey. *British Journal of Management*, 14(1), p.3–17.
- Mithas, S., Ramasubbu, N. & Sambamurthy, V., 2011. How Information Management Capability Influences Firm Performance. *MIS Quarterly*, 35(1), p.237–256.
- Mumford, E., 2000. A Socio-Technical Approach to Systems Design. *Requirements Engineering*, 5(2), p.125–133.
- Orlikowski, W. & Baroudi, J., 1991. Studying Information Technology in Organizations: Research Approaches and Assumptions. *Information Systems Research*, 2(1), p.1–28.
- Palmatier, R.W. & Gopalakrishna, S., 2005. Determining the Payoff from Relationship Marketing Programs, Cambridge, MA: Marketing Science Institute.

Parvatiyar, A. & Sheth, J., 1997. Paradigm Shift in Interfirm Marketing Relationships: Emerging Research Issues. *Research in Marketing*, 13, p.233–255.

Payne, A., 2006. *Handbook of CRM*, Oxford: Butterworth-Heinemann.  
Peelen, E. et al., 2009. An empirical study into the foundations of CRM success. *Journal of Strategic Marketing*, 17(6), p.453–471.

Peppard, J. & Ward, J., 2005. Customer Experience Creation: Determinants, Dynamics and Management Strategies. *California Management Review*, 48(1), p.52–70.

Podsakoff, P.M., MacKenzie, S.B. & Lee, J.-Y., 2003. Common Method Biases in Behavioral Research: A Critical Review of the Literature and Recommended Remedies. *Journal of Applied Psychology*, 88(5), p.879–903.

Ramani, G. & Kumar, V., 2008. Interaction Orientation and Firm Performance. *Journal of Marketing*, 72, p.27–45.

Reimann, M., Schilke, O. & Thomas, J.S., 2010. Customer Relationship Management and Firm Performance: The Mediating Role of Business Strategy. *Journal of the Academy of Marketing Science*, 38, p.326–346.

Reinartz, W., Krafft, M. & Hoyer, W.D., 2004. The Customer Relationship Management Process: Its Measurement and Impact on Performance. *Journal of Marketing Research*, 41(3), p.293–305.

Ryals, L., 2005. Making Customer Relationship Management Work: The Measurement and Profitable Management of Customer Relationships. *Journal of Marketing*, 69(4), p.252–261.

Santhanam, R. & Hartono, E., 2003. Issues in Linking Information Technology Capability to Firm Performance. *MIS Quarterly*, 27(1), p.125–153.

Seddon, P., Calvert, C. & Yang, S., 2011. A Multi-Project Model of Key Factors Affecting Organizational Benefits from Enterprise Systems. *MIS Quarterly*, 34(2), p.305–328.

Sharma, R., Yetton, P. & Crawford, J., 2009. Estimating the Effect of Common Method Variance: The Method-Method Pair Technique with an Illustration from TAM Research. *MIS Quarterly*, 33(3), p.473–490.

Srinivasan, R. & Moorman, C., 2005. Strategic firm commitments and rewards for customer relationship management in online retailing. *Journal of Marketing*, 69(4), p.193–200.

Teece, D.J., 2007. Explicating Dynamic Capabilities: The Nature and Microfoundations of (Sustainable) Enterprise Performance. *Strategic Management Journal*, 28(13), p.1319–1350.

Tversky, A. & Kahneman, D., 1974. Judgment under Uncertainty: Heuristics and Biases. *Science*, 185(4157), p.1124–1131.

Vargo, S. & Lusch, R., 2004. Evolving to a New Dominant Logic for Marketing. *Journal of Marketing*, 68(1), p.1–17.

Zollo, M. & Winter, S.G., 2002. Deliberate Learning and the Evolution of Dynamic Capabilities. *Organization Science*, 13(3), p.339–351.

# TECHNOLOGY READINESS INDEX 2.0: REVISING A SCALE TO REFLECT A CHANGING SERVICES TECHNOLOGY LANDSCAPE

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## ABSTRACT

This presentation will introduce the latest Technology Readiness Index (2.0) and discuss the research methods to revise it that included social media discussions and confirmatory factor analysis. The results are relevant to scholars who study technology adoption and practitioners involved in implementing new technology.

## INTRODUCTION

The Technology Readiness Index (TRI) was first published in 2000 in the Journal of Service Research and has become a widely accepted metric for studying the propensity to adopt and use cutting-edge technology at home and the workplace. It consisted of a 36-item scale for measuring “technology readiness” that was comprised of 4 component dimensions: innovativeness, optimism, discomfort and insecurity. In the past decade, the TRI has been valuable for service researchers working in an environment transformed by self-service interfaces, mobile access and social media. The scale has been deployed in dozens of countries in multiple languages, and has been used in a wide variety of service sectors including banking, telecommunications, healthcare, e-government and professional services.

Until now, the TRI remained unchanged since its development in 1999. While the TRI has proven to be robust, issues have been identified including: scale items that refer to technologies and situations that are dated; concerns that it does not address technologies that were non-existent or nascent a decade ago; and a desire for the scale to be more concise to accommodate studies where technology readiness is just one of many constructs. The authors identified these issues through their own research, but also gathered input from TRI users in a LinkedIn forum. To illustrate one motivation for updating the scale, an overall TRI measure captured in tracking studies by the research firm Rockbridge Associates, Inc. showed a shift from 100 to 103 over a ten-year period due to certain questions being based on contexts that were no longer harbingers of innovative behavior.

## METHODOLOGY

This presentation discusses the research efforts to revise the TRI, the newest version of the scale (TRI 2.0), and insights about the role of technology readiness in today’s increasingly technology-based service landscape. This latest research began with a qualitative phase that identified hypotheses about technology drivers and inhibitors; consumers in the U.S. discussed their views on technology in an online discussion that mirrored a social media conversation (using the innovative OpinionPond™ tool). The researchers mined the qualitative results and developed a comprehensive

survey instrument that included existing and revised items of the original TRI. Many existing items were updated to reflect newer descriptions of technology, while new items were included to capture contemporary themes uncovered in the qualitative discussions—for instance concerns such as current-day technologies causing distraction, dependence and diminished social interaction.

Data were collected in January 2012 with a large probability sample of the general population in the U.S., using mail and web samples. The updated Technology Readiness Index (TRI 2.0) was developed through the same analysis methods used in developing the original TRI, including factor analysis and reliability analysis. The analyses confirmed that TRI 2.0 has the same dimensional structure as the original TRI, which includes two motivator dimensions (optimism and innovativeness) and two inhibitor dimensions (discomfort and insecurity). TRI 2.0 also has similar reliability as the original version, but captures the core constructs with fewer items (22 instead of 36). Confirmatory factor analysis further verified the dimensional structure of the revised index.

Another task involved establishing the validity of the scale as a predictor of technology-oriented service behaviors. The survey questionnaire captured information on behaviors considered cutting-edge by participants in the OpinionPond™ discussion, including innovative activities at home and work, ownership of technologies, and online service activities. The TR 2.0 scale correlated strongly with these behaviors, thus confirming its validity. To illustrate, the index is much higher among consumers who own or intend to own a smartphone, an increasingly important technology for accessing services; in contrast, the index was significantly lower for users of conventional cell phones because the latter are being replaced with smartphones by cutting-edge consumers.

A major difference from the 2000 JSR article is that TR 2.0 goes beyond creating an index metric, and also includes a segmentation typology that can be used to categorize consumers based on combinations of motivations and inhibitions towards technology adoption and use. This segmentation was developed using Latent Class Analysis, and resulted in five groups similar to ones reported by the authors in other research (Parasuraman and Colby 2001). This includes Explorers (highly motivated, few inhibitions), Pioneers (highly motivated but high on inhibitions as well), Skeptics (low on both motivations and inhibitions), Paranoids (high insecurity) and Laggards (low on motivations, high on inhibitions).

## CONCLUSIONS

TR 2.0 holds promise as a robust tool for future research on technology behavior in the services sector. In particular, the reduced attribute battery will make it more useful for providing detail on technology motivators and inhibitors without requiring a lot of space on research surveys. The scale is copyrighted by the authors, but is made available at no cost to scholars using it for academic studies.

This session should be of interest to anyone involved in studying the

adoption of cutting-edge service technologies. It should also interest researchers who have used the TRI in the past or plan to do so in the future.

## REFERENCES

Parasuraman, A. (2000), "Technology Readiness Index (TRI): A Multiple-Item Scale to Measure Readiness to Embrace New Technologies," *Journal of Service Research*, 2 (May), 307-20.

Parasuraman, A. and Charles L. Colby (2001), *Techno-Ready Marketing: How and Why Your Customers Adopt Technology*, The Free Press, Division of Simon & Schuster, Inc., New York, NY.

# THE EFFECT OF EMPLOYEE'S COMPETENCE IN A SCENTED FINANCIAL SERVICE ENCOUNTER

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## ABSTRACT

In financial services employee's competences are essential determinants of service encounter evaluation (Specht 2008). Although professional and social expertise have to be considered (van der Heijden 2001) research is often restricted to one ability. Moreover, customers perceive the servicescape by all senses, but the olfactory sense is neglected although it has been shown that ambient scent in encounters improves satisfaction (Kilian 2012). To investigate the impact of ambient scent on the perception of both competences an experiment was applied. Results show no significant influence of scent on perceived competences whereas the latter revealed significant coherences.

## RELEVANCE OF BEHAVIORAL INTERACTIONS IN FINANCIAL SERVICE ENCOUNTERS AND THE INFLUENCE OF AMBIENT SCENT

"We live on the leash of our senses" (Ackerman 1990, p. 13). Thus, companies need to activate all customers' senses by using a multi-sensual marketing approach. But can this approach be transferred to financial services?

In complex services customer-employee interactions play the key task to create and maintain personal relationships (Haring and Mattsson 1999; Surprenant and Solomon 1987). Studies emphasise that abilities are striking features affecting satisfaction (Bartsch 2009; Specht et al. 2007). Besides, abilities can be subdivided into social and professional expertise (van der Heijden 2001). Findings show that better results can be achieved, if employees concentrate on both abilities (Johnston 1997). Moreover, social and ambient conditions also affect profitability. It has been shown that a satisfying transaction leads to increasing loyalty and, in turn, to higher margins, especially in financial services (Andaleeb and Basu 1998; Jamal and Naser 2002). Especially in such service encounters, where customers neither can taste nor touch a perceived performance, the olfactory sense can be ideally integrated to influence consumption activities because "fragrances can indeed influence several aspects of behaviour" (Baron and Thomley 1994, p. 767). In 2007 the financial institution "Credit Suisse" introduced a pleasant ambient scent in order to relax the customer and to enhance a feeling of security (Müller-Grünow 2010).

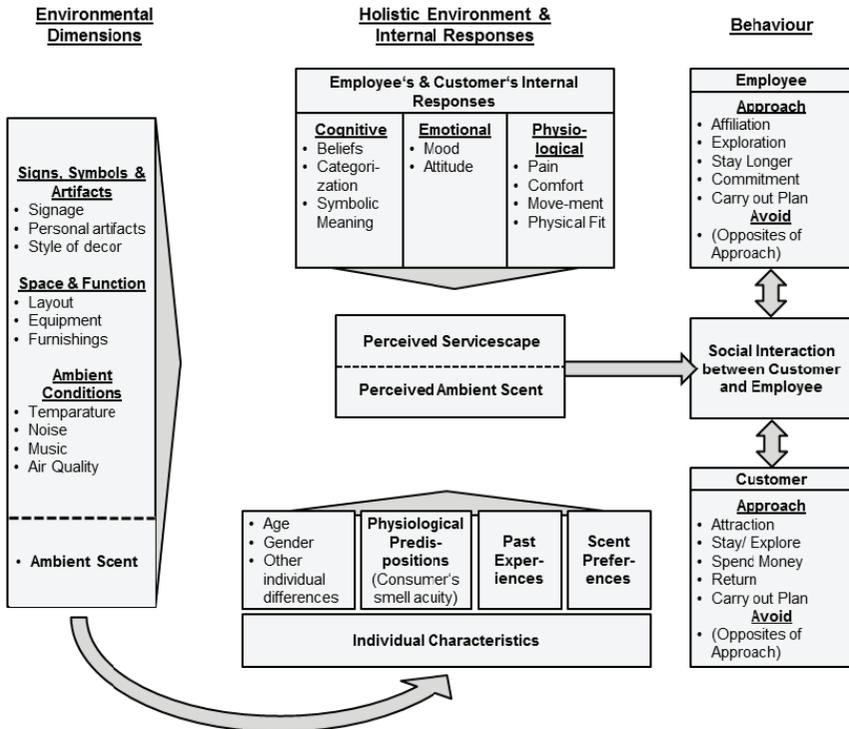
Interestingly however, the trend of using ambient scents among practitioners is accompanied by rather little attention in service research (Gulas and Bloch 1995; Kilian 2012; Morrin and Ratneshwar 2003; Spangenberg et al. 1996). There are some findings about music in the banking sector but only limited results regarding the effects of scents in servicescapes (Reimer 2004), in general, and especially in financial services (McDonnell 2002). To our knowledge there exist no empirical results, how customers' perceptions of social and professional expertise of employees in a bank are affected

by scent (Ennew and Waite 2007). Therefore, this study contributes to research in marketing by investigating how perceptions of employee's professional and social competence within a scented servicescape affect service quality, satisfaction and loyalty perceptions in financial services. Thus, we did a 2 x 2 x 2 experimental study varying positive and negative shaping of professional and social competence within a scented and non-scented group.

## CONCEPTUAL FRAMEWORK AND RESEARCH HYPOTHESES

In the servicescape as "the immediate physical and social environments surrounding a service experience, transaction or event" (Bitner 2000, p. 48) all five human senses are addressed. The model explains that scents are part of the service environment, and may thus alter its holistic perception (Bitner 1992). However, Bitner's framework seems to be too rigid because it "excludes people from the classification of environmental factors" (Tombs and McColl-Kennedy 2003, p. 458). Also the social aspect needs to be considered (Baker et al. 1994; Rosenbaum 2006; Tombs and McColl-Kennedy 2003). According to Gulas and Bloch (1995), the individual's stimulation by odour can be explained with reference to the S-O-R model which adapts to Bitner's framework. Based on individual characteristics an immediate response appears (Ehrlichman and Halpern 1988). Due to the phenomenon that people immediately like or dislike a particular odour (Burdach 1988), an approach or avoidance reaction emerges. Pointing out the multidimensionality of atmosphere, non-scented characteristics like employee behaviours influence the affective response, and fragrances are required to fit with these elements (Ehrlichman and Halpern 1988; Gulas and Bloch 1995; Knoblich 2003). Combining Bitner's framework and the model of ambient scent, most relevant determinants can be illustrated because "environmental features affect evaluations of a store and its products, as well as in-store behaviors" (Spangenberg et al. 1996, p. 86).

Figure 1: Servicescape model in adaption of Bitner (1992), p. 60 and Gulas & Bloch (1995), p. 9



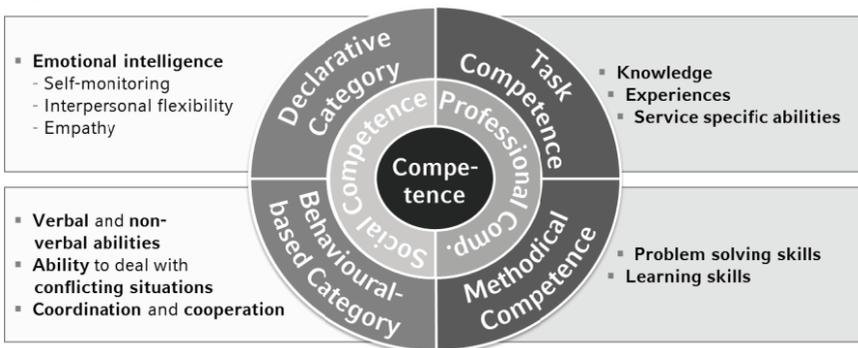
A recent categorization shows that olfactory stimulation can induce various affective, cognitive and behavioural reactions (Rempel 2006). It has been shown that pleasant ambient scent increases perceived service quality (Morrin and Chebat 2005) and satisfaction which is linked to the intention, to visit an encounter again (Bitner 1992; Gulas and Bloch 1995; Mattila and Wirtz 2001; Spangenberg et al. 1996). In financial services McDonnell (2002) showed that introducing ambient scent enhanced service evaluation. Also, the service encounter itself can be influenced by the usage of ambient scent (Stöhr 1998; Zemke and Shoemaker 2007, 2008).

Competence can be divided by a professional and a social one (Brendendorff et al. 2010; Coenen 2001; Le Deist and Winterton 2005; van Dolen et al. 2002). Professional competence practitioners can be defined as interactive and dynamic employees “deeply versed in advanced and subtle bodies of knowledge which they apply with dedication in solving complex practical problems” (Houle 1981, p. 1). This expertise becomes more important in financial service industries as most customers do not understand the large amount of financial instruments. Specht et al. (2007) have shown a positive relationship between abilities and satisfaction. Therefore, we hypothesize: H1 and H2: In a scented servicescape, professional competence leads to higher service quality (H1)/satisfaction (H2), compared to a non-scented

encounter.

Apart from delivering a core task, employees have to behave in a friendly, enthusiastic, attentive and responsive way (Jain et al. 2009; van Dolen et al. 2002). Thus, social competence is the "(...) manifestation of actual (work related) skills based on emotional intelligence" (Giardini and Frese 2008, p. 156) and has a great impact on financial service encounters (Czepiel 1990; Tombs and McColl-Kennedy 2003; van der Heijden 2001). Referring to role and script theory, employees have to adapt to heterogeneous and fast-changing customer feelings, to offer tailored services. This has a beneficial effect on the overall evaluation of the service encounter (Andaleeb and Basu 1998; Woodruffe 1993). In particular, being empathic in face-to-face financial servicescapes is characterised as a primary determinant of service process and outcome (Blanchard and Galloway 1994; Coenen 2001). Therefore we hypothesize: H3 and H4: In a scented servicescape, social competence leads to higher service quality (H3)/satisfaction (H4), compared to a non-scented encounter.

Figure 2: Overview of competencies



Overall, quality, satisfaction and loyalty intentions are affected by employee behaviour (Ko de Ruyter 2000; Specht 2008). A survey of a bank's customer base revealed that most important high-ranked quality determinants, contributing to satisfaction, are professional and social competence (Johnston 1997). And it has been shown that service quality, mediated by satisfaction, impacts customers' behavioural intentions (Dabholkar et al. 2000). Therefore we hypothesize:

H5: In a scented servicescape, positive service quality has a higher effect on satisfaction, compared to a non-scented encounter.

H6 and H7: In a scented servicescape, positive service quality (H7)/satisfaction (H6) has a higher effect on behavioural intentions, compared to a non-scented encounter.

## RESEARCH METHOD

A 2 (high and low professional competence) x 2 (high and low social competence) x 2 (scent, no scent) experimental between-subject design based on financial counselling in a German savings bank was adopted.

Manipulation worked as intended and strong relationships between spots and competences were found ( $p < 0,001$ ; partial  $\eta^2$  professional competence = 0.698, partial  $\eta^2$  social competence = 0.667).

To determine a suitable scent, a pre-test ( $n=32$ ) between two different fragrances was conducted and the one which fitted better for a financial setting was selected. To test the perception of ambient scent in the laboratory the perceived intensity of the scent was analysed. Data underlines an average till strong intensity by 72 per cent of the experimental participants and a moderate mean ( $M = 4.35$ ,  $SD = 1.62$ ) which confirms the assumption of a successful manipulation.

Regarding the questionnaire, participants watched a randomly selected video and were asked to evaluate the employee's professional (Specht 2008) and social competence (Andaleeb and Basu 1998), service quality (Dabholkar et al. 2000), satisfaction (Oliver 1981) and behavioural intentions (Ko de Ruyter 2000) on validated 7-point Likert scales afterwards. Pointing out the scented group, to avoid any biased perceptions, no remarks were made about the odour in the room (Baron and Thomley 1994).

## RESULTS

The results of the exploratory factor analyses show that the items loaded on the respected factor. Explained variance of each factor was greater than 0.7, Cronbach's alpha was always greater than 0.8 and KMO was always greater than 0.7. ANCOVAs and regression analyses were applied to test hypotheses. Because all hypotheses consist of the moderator scent, interaction terms were formed to assess the influence of fragrance. A significance level of 0.1 was applied.

First, ANCOVAs were applied to assess whether means of competences and related interaction terms differed significantly in scented and unscented surroundings. Results show effects of professional and social expertise on service quality and a strong one on satisfaction. Achieving deeper insight regression analysis indicates positive influence of both competencies on service quality and satisfaction. However, scent as a moderator did not show a significant impact. To conclude, H1 to H4 cannot be supported but the competences have an influence on service quality as well as satisfaction.

Table 1: The effect of competence and scent on service quality and satisfaction perceptions

Independent Variable	Moderator	Dependent Variable	ANCOVA			Regression analysis		
			F-Value	P-Value	$\epsilon^2$	Standardized Coefficients	P-Value	
H1 Professional Competence	Scent	Service Quality	14.387	< 0.001	0.057	$\beta_{PC}$	0.267	< 0.001
		Service Quality	0.321	> 0.1		$\beta_{PC \times Scent}$	0.04	> 0.1
H2 Professional Competence	Scent	Satisfaction	220.993	< 0.001	0.483	$\beta_{PC}$	0.74	< 0.001
		Satisfaction	0.026	> 0.1		$\beta_{PC \times Scent}$	-0.008	> 0.1
H3 Social Competence	Scent	Service Quality	26.957	< 0.001	0.102	$\beta_{SC}$	0.356	< 0.001
		Service Quality	0.033	> 0.1		$\beta_{SC \times Scent}$	0.013	> 0.1
H4 Social Competence	Scent	Satisfaction	211.340	< 0.001	0.471	$\beta_{SC}$	0.737	< 0.001
		Satisfaction	0.222	> 0.1		$\beta_{SC \times Scent}$	-0.024	> 0.1

To examine a moderating effect of scent on the relationship between service quality and satisfaction, an interaction term was introduced. First an ANCOVA and afterwards a linear regression were processed. Regarding covariance analysis, service quality has a significant effect on satisfaction. By contrast, a relevant impact of scent on that coherence cannot be assumed. Regression analysis also yields the same findings. Service quality itself bears on customer satisfaction. As already shown by the ANCOVA, the model does not confirm scent as moderator.

Table 2: The impact of scent among the coherence of evaluative postencounter dimensions

Independent Variable	Moderator	Dependent Variable	ANCOVA			Regression analysis		
			F-Value	P-Value	$\zeta^2$	Standardized Coefficients	P-Value	
H5	Service Quality	Satisfaction	68,916	< 0.001	0,225	$\beta_{SQ}$	8,302	< 0.001
	Service Quality	Satisfaction	0,084	> 0.1		$\beta_{SQ \times Scent}$	-0,29	> 0.1
H6	Satisfaction	Intention	88,293	< 0.001	0,271	$\beta_{ST}$	0,581	< 0.001
	Satisfaction	Intention	0,086	> 0.1		$\beta_{ST \times Scent}$	-0,18	> 0.1
H7	Service Quality	Intention	272,449	< 0.001	0,535	$\beta_{SQ}$	0,763	< 0.001
	Service Quality	Intention	0,742	> 0.1		$\beta_{SQ \times Scent}$	-0,04	> 0.1

Covariance findings of H5 indicate an impact of service quality on customer behavioural intentions. Ambient fragrance as moderator of this relationship cannot be confirmed. To get a clear understanding about the extent and direction of the effect of service quality on intention, regression shows strong positive influence but no moderating effect of scent.

Pointing out H6 and H7, ANCOVA outcome explains a significant and considerable influence of service quality and satisfaction on behavioural intentions respectively. However, scent does not contribute to the effect on the dependent variable. Regression analysis emphasises the variables' connection that a positive effect on regression's slope does exist. In turn, the interaction term of scent shows no significance.

## DISCUSSION

The overall goal was to examine the influence of scent on customer perception of employee's competences in financial encounters. To summarise, it became apparent that professional and social competence have remarkable effects on service quality and satisfaction (Andaleeb and Basu 1998; Bitner et al. 1990; Brexendorf et al. 2010; Coenen 2001; Haring and Mattsson 1999; Specht 2008; van Dolen et al. 2002). However, neither the impact of professional nor social expertise on dependent variables is significantly moderated by ambient scent. Thus, theory and previous findings, illustrating ambient fragrance as a moderator of people's perceptions and evaluations of service encounters, cannot be supported (Bitner 1992; Baron and Thomley 1994; Gulas and Bloch 1995; Mattila and Wirtz 2001; Spangenberg et al. 1996).

To conclude, investigating all hypotheses, no differences in perceptions caused by ambient fragrance could be detected but all manipulated behaviours did show significant outcomes. If an employee possesses both,

high professional and social competence, the highest degree of service quality, satisfaction and behavioural intentions will be achieved.

## LIMITATIONS AND IMPLICATIONS FOR FUTURE RESEARCH AND MANAGEMENT

Lots of confounding variables like music, light (Bitner 1992) and employee physical attractiveness (Koernig and Page 2002) were excluded which, in turn, also have considerable effects. In addition, this work was focused on financial services. However, industries are quite heterogeneous in complexity as well as involvement and certain kinds of competences maybe weighted differently. Further research in different industries seems to be appropriate. Also, the impact of environmental and spatial stimuli altogether on the customer-employee-interaction is relevant for following investigations. With reference to fragrance, Hehn (2006) underlines the essential meaning of scent congruity. One of the essential points is that a multidimensional approach (behaviours and environment) for the conceptualization of a servicescape is required. Managers thinking about the use of a scent stimulus have to pay attention to a striking point: the attempt to improve encounter perception should never lead to customer delusion. Like the movie „The Perfume“ illustrates, the impressive way how Jean-Baptiste Grenouille manipulates people by their olfactory sense, finally leads to his tragic end.

## REFERENCES

- Ackerman, D. (1990), *A natural history of the senses*, New York, Random House
- Andaleeb, S. S. & Basu, A. K. (1998), Do warranties influence perceptions of service quality?: A study of the automobile repair and service industry, *Journal of Retailing and Consumer Services*, 5, 87-91
- Baker, J., Grewal, D. & Parasuraman, A. (1994), The Influence of Store Environment on Quality Inferences and Store Image, *Journal of the Academy of Marketing Science*, 22, 328-339
- Baron, R. A. & Thomley, J. (1994), A whiff of reality, *Environment & Behavior*, 26, 766
- Bartsch, S., (2009), *Essays on Call Center Research – How to Design Superior Interactions in Call Centers* Inaugural-Dissertation zur Erlangung des Grade
- Doktor oecnomiae publicae (Dr. oec. publ.) Ludwig-Maximilians-Universität München
- Bitner, M. J. (1992), Servicescapes: The Impact of Physical Surroundings on Customers and Employees, *Journal of Marketing*, 56, 57-71
- Bitner, M. J., Booms, B. H. & Tetreault, M. S. (1990), The service encounter: Diagnosing Favorable and Unfavorable Incidents, *Journal of Marketing*,

Blanchard, R. F. & Galloway, R. L. (1994), Quality in Retail Banking, *International Journal of Service Industry Management*, 5, 5-23

Brexendorf, T. O., Mühlmeier, S., Tomczak, T. & Eisend, M. (2010), The impact of sales encounters on brand loyalty, *Journal of Business Research*, 63, 1148-1155

Coenen, C. (2001), Serviceorientierung und Servicekompetenz von Kundenkontakt-Mitarbeitern In: STAUSS, M. B. B. (ed.) *Interaktionen im Dienstleistungsbereich*, Wiesbaden

Czepiel, J. A. (1990), Service encounters and service relationships: Implications for research, *Journal of Business Research*, 20, 13-21

Dabholkar, P. A., Shepherd, C. D. & Thorpe, D. I. (2000), A comprehensive framework for service quality: An investigation of critical conceptual and measurement issues through a longitudinal study, *Journal of Retailing*, 76, 139-173

Ehrlichman, H. & Halpern, J. N. (1988), Affect and memory: Effects of pleasant and unpleasant odors on retrieval of happy and unhappy memories, *Journal of Personality and Social Psychology*, 55, 769-779

Ennew, C. T. & Waite, N. (2007), *Financial Services Marketing An International Guide to Principles and Practice*, Burlington, Elsevier

Giardini, A. & Frese, M. (2008), Linking service employees' emotional competence to customer satisfaction: a multilevel approach, *Journal of Organizational Behavior*, 29, 155-170

Gulas, C. S. & Bloch, P. H. (1995), Right under our Noses: Abient Scent and Consumer Responses, *Journal of Business & Psychology*, 10, 87-98

Haring, M. D. & Mattsson, J. (1999), A Linguistic Approach to Studying Quality of Face-to-Face Communication, *Service Industries Journal*, 19, 28-48

Hehn, P. (2006), *Der Duft der Marke, Absatzwirtschaft*:

Houle, C. O. (1981), Continuing learning in the professions, *Möbius: A Journal for Continuing Education Professionals in Health Sciences*, 1, 76-80

Jain, N., Sethi, A. & Mukherji, S. (2009), Impact of Communication during Service Encounters on Customer's Perception of Organization Image, *Paradigm (Institute of Management Technology)*, 13, 56-65

Jamal, A. & Naser, K. (2002), Customer satisfaction and retail banking: an assessment of some of the key antecedents of customer satisfaction in retail banking, *International Journal of Bank Marketing*, 20, 146

Johnston, R. (1997), Identifying the critical determinants of service quality in retail banking: importance and effect, *International Journal of Bank Marketing*, 15, 111

Kilian, K. (2012), Die stimmige Kundenansprache über alle fünf Sinne macht Marken erfolgreicher, *media spectrum*:

Knoblich, H. (2003), *Marketing mit Duft*

Ko De Ruyter, M. W. (2000), "Customer equity considerations in service recovery: a cross-industry perspective", *International Journal of Service Industry Management*, Vol. 11 Iss: 1, pp.91 - 108

Koernig, S. K. & Page, A. L. (2002), What If Your Dentist Looked Like Tom Cruise? Applying the Match-Up Hypothesis to a Service Encounter, *Psychology & Marketing*, 19, 91-110

Le Deist, F. D. & Winterton, J. (2005), What Is Competence?, *Human Resource Development International*, 8, 27-46

Mattila, A. S. & Wirtz, J. (2001), Congruency of scent and music as a driver of in-store evaluations and behavior, *Journal of Retailing*, 77, 273

Morrin, M. & Ratneshwar, S. (2003), Does It Make Sense to Use Scents to Enhance Brand Memory?, *Journal of Marketing Research*, 40, 10-25

Rosenbaum, M. S. (2006), Exploring the Social Supportive Role of Third Places in Consumers' Lives, *Journal of Service Research*, 9, 59-72

Spangenberg, E. A., Crowley, A. E. & Henderson, P. W. (1996), Improving the Store Environment: Do Olfactory Cues Affect Evaluations and Behaviors?, *Journal of Marketing*, 60, 67-80

Specht, N. (2008), Erfolgsfaktor Service: Warum und wie Mitarbeiter im persönlichen Kontakt zu Kunden begeistern, In: Prof. Dr. Meyer, P. W. & Prof. Dr. Meyre, A. (eds.) *Schriftenreihe Schwerpunkt Marketing*, Munich: FGM-Verlag e.V.

Specht, N., Fichtel, S. & Meyer, A. (2007), Perception and attribution of employees' effort and abilities, *International Journal of Service Industry Management*, 18, 534-554

Surprenant, C. F. & Solomon, M. R. (1987), Predictability and Personalization in the Service Encounter, *Journal of Marketing*, 51, 86-96

Tombs, A. & Mccoll-Kennedy, J. R. (2003), Social-servicescape conceptual model, *Marketing Theory*, 3, 447-475

Van Der Heijden, B. (2001), Age and Assessments of Professional Expertise: The Relationship between Higher Level Employees' Age and Self-assessments or Supervisor Ratings of Professional Expertise, *International Journal of Selection & Assessment*, 9, 309

Van Dolen, W., Lemmink, J., De Ruyter, K. & De Jong, A. (2002), Customer-sales employee encounters: a dyadic perspective, *Journal of Retailing*, 78, 265

Woodruffe, C. (1993), What is meant by a competency?, *Leadership & Organization Development Journal*, 14, 29-36

# THE IMPACT OF CONSUMER PSYCHOLOGICAL EMPOWERMENT IN UNDERSTANDING FACTORS LEADING TO CONSUMER ENGAGEMENT

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## ABSTRACT

Current customer engagement literature is still laden with definitional and conceptual chaos, which is complicating matters in terms of integrating research efforts. In this paper, the authors define engagement as a behavioural construct and introduce psychological empowerment as a motivational state of mind that leads to engagement. The separation of the motivational and behavioural elements of engagement is proposed to help in the organization of extant literature and in the recognition of the antecedents and consequences of customer engagement.

## INTRODUCTION

With the developments in information technology, particularly the social media, and new ideas like the service-dominant logic and value cocreation in marketing, customer engagement is currently receiving much interest from both the academic and practitioners alike. Many authors are hailing customer engagement as a way of creating a loyal customer base (e.g. Hollebeek, 2011; Bowden, 2009) and also as a way of turning increasing consumer power to the benefit of companies by forming long term collaborative relationships that will enable the companies to tap into the creativity of customers in increasing competitiveness and profitability (Sawhney et al. 2005; Mollen and Wilson, 2010).

Nonetheless, as the customer engagement is bandied about and the amount of work on engagement is growing with fast pace, it seems that there is little agreement in literature about what it actually entails and the nature of engagement construct still remains elusive. A review of current literature shows that many different meanings and even intentions have been loaded onto the notion of engagement by different authors. It has been defined as a psychological state-of-mind (e.g. Hollebeek, 2011; Macey and Schneider, 2008), a psychological process (e.g. Bowden, 2009), as a behavioural construct (e.g. van Doorn et al., 2010; Verhoef et al, 2010), and as an interactional construct (e.g. Kumar et al., 2010). The differences between these definitions in turn, are leading to the fragmentation of research efforts, which is recognised by others working in the area as well (e.g. Vivek et al. 2012; Patterson et al., 2006).

On the other hand, while there is no consensus on what engagement entails, one thing that attracts attention about this body of literature is the existence of certain convergences. When the current definitions and conceptualisations of engagement, both from marketing and organizational psychology perspectives are studied, it is seen that certain constructs have been associated with engagement construct repeatedly by different authors. Among these are commitment (Macey and Schneider,

2008; Brodie et al. 2011), trust (Brodie et al. 2011; Bowden, 2009), flow (Salanova, Agut, and Peiro, 2005; Schaufeli et al. 2002; May et al. 2004) loyalty (Brodie et al, 2011), involvement (Bowden, 2009; Brodie et al, 2011), participation, empowerment (Brodie et al. 2011), satisfaction (Bowden, 2009b), meaningfulness (Chalofsky and Krishna, 2009; May et al, 2004; Kahn, 1990, 1992), connection (Brodie et al, 2011), emotional bonding (Brodie et al., 2011) and self-efficacy (Schaufeli et al., 2002). While it is not always made clear whether these constructs are associated with engagement as a dimension, antecedent or consequence, it is obvious that different authors have seen relationships between a range of similar constructs and engagement, and this we argue, is not coincidental. When engagement and these constructs are studied closely, a clear linkage can be seen to the construct of psychological empowerment.

While in organizational literature psychological empowerment has been found to lead to engagement (Caglar, 2012, Stander and Rothmann, 2010; Zhang and Bartol, 2010), in consumer literature psychological empowerment has received little attention apart from merely being highlighted as a vaguely related construct to engagement (e.g. Fuller et al, 2010; Hollebeek, 2009). The reason for this could be the paucity of research regarding psychological empowerment in consumer literature. However, psychological empowerment construct with its background in organizational psychology literature could provide insights that no other construct can, particularly when marketers are starting to see customers as partial employees and relying on their engagement to increase competitiveness and profitability.

Hence, in this paper, we briefly introduce psychological empowerment construct, and following an exploration of the relationship between psychological empowerment and engagement, we propose that psychological empowerment offers a key construct for studying the motivational element that leads to individual engagement, thus, enabling us to refine our understanding of engagement construct.

## LITERATURE REVIEW

### Psychological empowerment

Psychological empowerment (PE) construct has its roots in participatory research and it focuses on the individual experience of power, where power is defined as having a sense of control (Menon, 2001).

Psychological empowerment is a construct developed in organizational psychology literature to study the work motivations of employees and is identified with a type of motivation called the intrinsic task motivation (Thomas and Velthouse, 1990; Spreitzer, 1995), which involves positively valued experiences derived from a task. Intrinsic task motivation finds its roots in social psychology in the idea about humans innate psychological need for control (White 1959), which is also called effectance motivation (Skinner, 1996). Skinner (1996) states that effectance motivation “encourages people to seek opportunities for interacting with the environment; supports mastery strivings during interactions; and is the source of absorption, involvement, and joy during to process of attempting

to produce desired outcomes". She also points out that when these basic needs are not met, distress followed with efforts to restore control or escape from the situation will be the outcomes (Skinner 1996). The similarity of this to the engagement/disengagement literature is noteworthy (e.g. Kahn, 1990).

The identification of psychological empowerment with intrinsic task motivation is a crucial as this type of motivation differs from both intrinsic and extrinsic types of motivation. According to Deci and Ryan (1985), intrinsic motivation refers to "the performance of an activity for no apparent other reason than the reinforcement derived from the activity itself", whereas, extrinsic motivation refers to "the performance of an activity because it is perceived to be instrumental in achieving valued outcomes that are distinct from the activity itself". Instead, intrinsic task motivation is the intrinsic value of achieving a goal. As succinctly explained by Amabile (1993) "Deci and Ryan (1985) suggest that intrinsic motivation requires a focus on task engagement process only; any focus on product means that extrinsic motivation has come into play. We do not accept this dichotomy. We suggest, instead, that intrinsic motivation is completely compatible with certain kinds of product focus. For example, if, as an R&D scientist, I am motivated to work on a scientific problem primarily because I want to meet the challenge of cracking a difficult problem, I will be largely focused on the product-the solution that conquers the problem. In that case, my motivation can be considered intrinsic." Hence, in intrinsic task motivation the focus is on the purposive activity and not just the activity, as it is with intrinsic motivation (Thomas and Velthouse, 1990).

Intrinsic task motivation is characterised with four cognitions or task assessments, namely the meaningfulness, self-determination, competence and impact (Spreitzer, 1995; Thomas and Velthouse, 1990). The dimensions are defined by Spreitzer (1995), who operationalised the construct, as referring to the "value of the task goal or purpose"; selfdetermination as referring to the "autonomy in the initiation and continuation of behaviours and processes"; competence as referring to "an individual's beliefs in his or her capacity to perform activities with skill" and finally, impact dimension is defined as referring to "the degree to which an individual can influence the outcomes". The task assessments are subjective interpretations rather than objective responses to stimuli (Thomas and Velthouse, 1990). Individual characteristics, task characteristics and environment characteristics will dynamically interact to form subjective task assessments (Hon and Rensvold, 2006). From an organizational perspective among the antecedents of psychological empowerment, access to information, access to resources, social support and culture have been identified as factors contributing to experience of empowerment (Spreitzer, 1995) whereas among the behavioural consequences of psychological empowerment identified in organizational behaviour are creativity (Amabile, 1993), innovativeness and effectiveness (Spreitzer, 1995).

Below, the relationship between the dimensions of psychological empowerment and customer engagement will be explored.

## THE RELATIONSHIP BETWEEN PE AND ENGAGEMENT

Engagement has been defined in many different ways in customer engagement literature. While there is no consensus in marketing literature regarding what it exactly entails, when the engagement literature is compared with the psychological empowerment literature in the light of social psychology, close parallels can be drawn between the two constructs which also offers help in terms of defining engagement and understanding its nature.

In literature engagement and empowerment have often been associated, albeit sometimes in a fuzzy way. For example, Zimmerman et al. (1992) from a community psychology perspective suggest that psychological empowerment “is not simply self-perceptions of competence but includes active engagement in one’s community and an understanding of one’s social-political environment”. Again, in social psychology, a link between effectance motivation, goal directed behaviour and engagement has been highlighted by Skinner (1995, p.8-9) who suggested that “Effectance motivation results in the active goal-directed engagement ...” The active nature of engagement seen in these examples is noteworthy for signifying a behavioural perspective to engagement. Yet, what is still vague is how psychological empowerment and engagement related to each other and again social psychology can help us in refining this.

In social psychology, intention also has been suggested to refer to a determination to engage in a particular behaviour (Atkinson, 1964). As noted by Deci and Ryan (1987), in Gestalt psychology oriented cognitive theories of motivation and action, “having an intention” refers to the personal causation which is seen as equivalent to being motivated to act. Again Schwarzer and Renner (2000) notes, in the initial motivation phase, intention to act (goal) develops and once the goal is set in the motivation phase, the volition phase follows. This is the phase when the individual plans details, try to act, invest effort, and persist. Hence, as suggested by Schwarzer and Renner (2000), two distinct phases should be considered, (a) the motivational phase which leads to behavioural intention and (b) the volitional phase that leads to actual behaviour. Based on this review, psychological empowerment, as implied by intrinsic task motivation, forms the motivational phase whereas engagement, forms the behavioural phase in which the individual actually exerts effort, persist and carry out the action. Indeed, the definition and conceptualization of engagement as a behavioural construct has previously been proposed by a number of authors as well (e.g. van Doorn et al., 2010; Verhoef et al, 2010).

Below, each dimension of psychological empowerment will be reviewed with regards to how they lead to customer engagement.

## DIMENSIONS OF PE AND CUSTOMER ENGAGEMENT

### Meaningfulness and engagement

As suggested earlier, meaningfulness is a dimension of psychological empowerment (Spreitzer, 1995; Thomas and Velthouse, 1990), which is defined as “the value of the task goal or purpose, judged in relation to an individual’s own standards” (Thomas and Velthouse, 1990) or goal involvement (Menon, 2001). For a motivation to be considered as intrinsic motivation, both self-determination and meaningfulness dimensions should exist together (Deci and Ryan, 1985). Meaningfulness is what makes a certain action, product, brand or a relationship relevant to the individual customer, and hence brings about commitment, involvement and concentration of energy (Kanter, 1983). In engagement literature, meaningfulness has also been identified as a dimension of engagement construct particularly in organisational psychology (e.g. Chalofsky and Krishna, 2009; Kahn, 1990; Fairlie, 2011; May et al. 2004). Both Fairlie (2011) and May et al (2004) found out empirically that meaningfulness is an antecedent of engagement. Hence, justifying the way of thinking developed here. In marketing, involvement is used instead of meaningfulness and as suggested by Celsi and Olson (1988) “a consumer’s level of involvement with an object, situation or action is determined by the degree to which s/he perceived that concept to be personally relevant”. Again in line with the way it was defined in psychological empowerment construct, Celsi and Olson (1988) suggest that what relevance is characterised by the perceive association between an individual’s intrinsic needs, goals and values and the object, action or situation. Meaningfulness is expected to play a big role in customer engagement as it will be pivotal not only in getting customers on board but also in retaining them.

### Self-determination, self-efficacy and engagement

In organizational literature, self-determination and competence are identified as the two separate dimensions of psychological empowerment construct (Thomas and Velthouse, 1990; Spreitzer, 1995). Self determination refers to “autonomy in the initiation and continuation of ....behaviours and processes” whereas, competence, refers to “an individual’s beliefs in his or her capacity to perform activities with skill” and is operationalised as self-efficacy (Spreitzer, 1995). The need for self-determination or autonomy has been explained as coming from the desire to be the origin of one’s own behaviour, to be free, to choose one’s course of action for oneself, which in turn leads to flexibility, creativity, initiative, resiliency and self regulation (Deci and Ryan, 1985). Need for competence on the other hand, as suggested by Skinner, (1996) “launches and support people’s interactions with the context and provides the feelings of efficacy that results from experiences of control”. A comparison of these definitions to the vigor dimension of engagement which is defined by Salanova, Agut and Peiró (2005) as referring to “high levels of energy and mental resilience while working, the willingness to invest effort in one’s work, and persistence even in the face of difficulties”, demonstrates that vigor is described as very similar to Deci and Ryan (1987)’s findings that self-determination results in interest in activity and resilience against adversity

and also Gecas (1989)'s finding that competence results in effort and persistence in challenging situations, hence, demonstrating the usefulness of psychological empowerment construct in studying the engagement.

### Impact and engagement

Impact dimension is defined by Spreitzer (1995) as "the degree to which an individual can influence outcomes" which emphasises the individual's control over outcomes. The impact dimension recognises that although the individual may have control over carrying out a certain behaviour, achievement of the desired outcome may still not be possible, as factors which are beyond his control may interfere. In other words, this can be defined as the perceived control over outcomes. Hence, if the impact dimension is missing from the picture, one would not be considered to be experiencing psychological empowerment and hence, he would not engage. Hence, as this literature review points out, psychological empowerment is accepted as the antecedent of customer engagement, it is also accepted that customer engagement has a purpose to it.

### CONCLUSION

In this paper, the aim was to explore the convergence between psychological empowerment and engagement constructs. Yet, the contribution of this paper can be said to be two-fold. First, the paper introduced psychological empowerment construct as an intrinsic task motivation, which differs from both the intrinsic and extrinsic motivations as defined by Deci and Ryan (1985). This in itself is a new approach in consumer literature as Deci and Ryan (1985)'s classification of motivation has long been used in consumer literature. Indeed, in their more recent work Deci and Ryan (2000) also seem to be softening their views as evidenced by their introduction of different types of motivations between the extrinsic vs. intrinsic dichotomy.

On the other hand, the second and the main contribution of this paper is the identification of psychological empowerment as the antecedent of engagement when engagement is defined as a behavioural construct. As psychological empowerment has four dimensions, namely meaningfulness, self-determination, competence and impact, this in turn, means that these task assessments will form the antecedents of customer engagement. The intrinsic task motivation based roots of psychological empowerment means that the degree of meaningfulness of the action in question (e.g. forming a long term brand relationship or making repeated purchases), will form a very important antecedent of consumer engagement. As choices are given or opportunities are provided to customers, their self-determination will increase, leading to an overall increase in experienced empowerment and hence, the likelihood of their engagement. As consumer perceived self-efficacy (competence) increased, their overall empowerment would increase and hence, they would be more likely to get engaged. As for the impact dimension, as the consumers perceived that they were getting the desired outcomes, they would experience increased empowerment and hence, improving their likelihood of engagement.

The use of psychological empowerment construct enables us to recognise

the agency of consumer and the dynamic interactions involved in the formation of the task assessments, which are its dimensions. As a result of these dynamic interactions, psychological empowerment will fluctuate and hence, the likelihood of engagement will fluctuate as well. In conclusion, psychological empowerment construct offers an excellent basis in defining and studying engagement as it provides a backbone for the organization of the related constructs as well.

## THEORETICAL & PRACTICAL IMPLICATIONS

The proposition of separating the motivational elements from the behavioural elements when defining engagement and defining the engagement from a behavioural perspective while appointing the psychological empowerment construct as its motivational antecedent will have many ramifications both from a theoretical and practical perspectives.

From a theoretical perspective, the separation of behaviour (engagement) from motivation as suggested in this paper not only helps in achieving conceptual clarity but also makes engagement construct compatible with previous literature. Psychological empowerment and engagement are two closely linked constructs that need to be considered together. In organizational literature, psychological empowerment has been linked to relational empowerment as well, and with the use of social exchange theory, as also suggested by Hollebeek (2011), it is possible to study relational aspects of engagement.

On the other hand, in terms of practical implications, the recognition of customer empowerment as the antecedent of customer engagement is expected to help marketers design marketing strategies that will lead customers towards engagement. As the motivation for engagement is coming from the four task assessments of psychological empowerment, marketers should aim to design strategies that would focus on leading to a positive change in the level of experienced psychological empowerment. Depending on what the desired behaviours are (e.g. value co-creation or other loyalty related behaviours), marketers should work on increasing the experienced of psychological empowerment to motivate customers. For example, strategies that would increase the perceived relevance of a brand for a customer would increase experienced psychological empowerment and hence, would motivate customers to engage with the brand. Providing opportunities would also have a positive effect on the experienced psychological empowerment as it would work on the self-determination perceptions. Also, providing feedback for the contributions of a customer would positively influence self efficacy perceptions. If a mutually beneficial relationship is the desired outcome, then, in order to engage customers, companies need to recognise the agency of customers and have to find about individual customer goals so that an alignment of goals that lead to mutual relational benefits could be achieved. This goal alignment process would not only require the presence of both parties but also the presentation of opportunities to customers to be able to interact with the company and other customers and to express themselves and their creativity. For a mutually beneficial relationship to work long term, especially for cocreation related applications, co-empowerment (i.e. a process where each side

empowers the other side) should be considered. The use of psychological empowerment construct to understand consumers in the context of co-creation is in line with seeing the consumers as part-time employees (e.g. Marzocchi and Zammit, 2006; Patterson et al (2006).

Psychological empowerment is a dynamic construct in that it is determined by the dynamic interaction between individual and his environment. As such, it cannot be treated as a constant and as psychological empowerment as a construct draws from achievement motivation, it can be said that, it will be change oriented. This in turn, will mean that those companies intending to base their business models into consumer engagement to foster cooperation and co-creation should be acutely aware that constant change and development will be required to keep customer interest. This is because, something that is considered as empowering and leading to consumer experience of empowerment will lose its effect in time and the consumer will be looking for new experiences to maintain the feeling of empowerment.

## REFERENCES

Amabile, T.M. (1993), "Motivational Synergy: Toward New Conceptualizations of Intrinsic and Extrinsic Motivation in Workplace", *Human Resource Management Review*, Vol.3, pp.185-201

Atkinson, J.W. (1964), "An Introduction to Motivation" Princeton, NJ: Van Nostrand.

Caglar, E.S. (2012), "Work Engagement, Empowerment and Leadership Styles: Analyses from Cultural Perspectives in Hotel Management", *Journal of Global Strategic Management*, 11, June, pp.17-31

Gecas, V. (1989), 'The social psychology of self-efficacy', *Annual Review of Sociology*, 15, pp.291-316

Hon, A.H. and Rensvold, R.B. (2006), "An Interactional Perspective on Perceived Empowerment: The Role of Personal Needs and Task Context", *The International Journal of Human Resource Management*, Vol.17, No.5, pp.959-982

Marzocchi, G.L. and Zammit, A. (2006), "Self-Scanning Technologies in Retail: Determinants of Adoption", *The Service Industries Journal*, Vol.26, No.6, September 2006, pp.651-669

Menon, S.T. (2001), "Employee Empowerment: An Integrative Psychological Approach", *An International Review*, Vol.50, pp.153-180

Rha, J.Y. and Widdows, R. (2002), "The Internet and The Consumer: Countervailing Power Revisited", *Prometheus*, Vol.20, No.2, 12p

Schwarzer, R. and Renner, B. (2000), "Social-Cognitive Predictors of Health Behaviour: Action Self-Efficacy and Coping Self-Efficacy", *Health Psychology*, Vol.19, No.5, pp.487-495

Skinner, E. A. (1996), A Guide to the Constructs of Control, *Journal of Personality and Social Psychology*, 71, 549-70.

Stander, Marius W. and Rothmann, Sebastiaan, (2010), "Psychological Empowerment, Job Insecurity and Employee Engagement", *SA Journal of Industrial Psychology*; Vol. 36, No. 1, 8 pages.

Zhang, X. And Bartol, K. (2010), "Linking Empowering Leadership and Employee Creativity: The Influence of Psychological Empowerment, Intrinsic Motivation, and Creative Process Engagement", *Academy of Management Journal*, Vol.53, No.1, pp.107-128

Zimmerman, M.A., Israel, B.A., Schulz, A. And Checkoway, B. (1992), "Further Explorations in Empowerment Theory: An Empirical Analysis of Psychological Empowerment", *American Journal of Community Psychology*, Vol.20, pp.707-727

\*Please contact the author for a complete list of references.

# THE IMPACT OF CO-CAPABILITY ON REPURCHASE INTENTION FOR EQUIPMENT-BASED SERVICES

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## ABSTRACT

This paper investigates the impact of perceived co-capability between a customer and provider on a customer's intention to repurchase equipment-based services. Our preliminary quantitative findings show that co-capability moderates the relationship between the degree of activity outsourced by a customer and the perceived risk of re-purchasing, in turn effecting a customers' intention to re-purchase. In investigating these relationships we look to contribute to literature on organizational buying behaviour of equipment-based services.

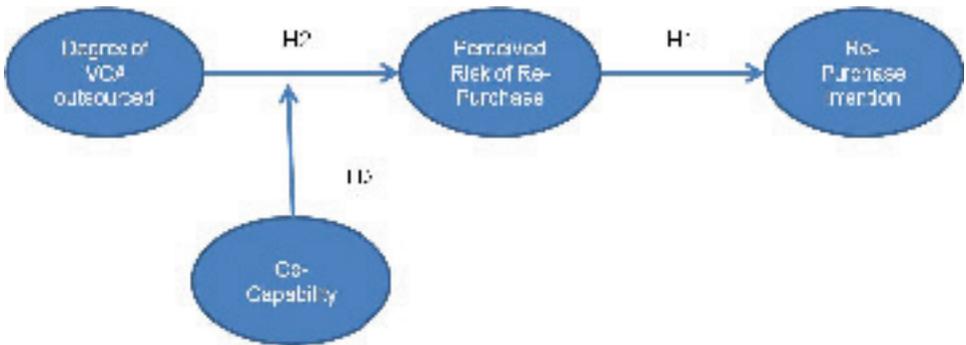
## INTRODUCTION

Buying capital equipment is risky for firms. To service and support the equipment so that it is consistently available and ready for use is also a challenge. This challenge is often highlighted within the literature on the servitization of manufacturing, a term coined by Vandermerwe and Rada (1988) to represent the shift by manufacturers from selling equipment, to being service providers that ensure the uninterrupted use of the equipment. In today's economy, many manufacturers are bundling equipment sales with support services. In fact, it is regularly acknowledged that even traditional manufacturing companies now attribute more than 50% of their revenues to service (Neely, 2008).

The decision to buy support services of equipment, however, is riskier than the decision to buy equipment alone. This risk has been attributed to the novelty and the importance of the decision but also to the increased involvement between the customer and the provider in product-service delivery (e.g. Rese and Maiwald, 2011; Tollner et al., 2011). Research has shown that to deliver support services for uninterrupted use of equipment requires resources from both the customer and the provider in a collaborative environment (Smith et al., 2012; Smith et al., in press). We argue that the collaborative environment of equipment use requires more than just a joint commitment of resources, but a co-capability of the customer and provider to work together (Ng et al, 2012).

This also implies that poor co-capability between the customer and provider may affect the customer's intention to re-purchase support services for equipment. Based on literature we propose the following conceptual model and hypotheses illustrated in Figure 1 below.

Figure 1: Conceptual Model



H1: Perceived risk of repurchase negatively influences repurchase intention

H2: Degree of outsourcing positively influences perceived risk of repurchase

H3: The effect of degree of outsourcing on perceived risk of repurchase is weaker for those with a high perceived co-capability, than for those with a low perceived co-capability

## METHOD

In seeking to explore these hypotheses, this research employs a webbased survey of buyers of support service contracts for capital equipment. The principal constructs were developed based on existing measures or on similar scales when possible. A preliminary version of the instrument was reviewed by industry and academic experts for precision and clearness. Subsequently, the instrument was pretested by administering it to 12 customers of equipment-based services to verify its appropriateness and comprehensiveness. None of these phases revealed any major problems, but the questionnaire was progressively refined, simplified, and shortened. A Partial Least Square (PLS) analysis method is applied to investigate the relationships between: (1) the extent the customer outsources support activities for their capital equipment; (2) the cocapability of the customer and provider to achieve consistent use of equipment; (3) the risk they perceive in re-purchasing the contract; and (4) their intention to re-purchase with the same provider. In so doing, the effect of co-capability on the intention to re-purchase services for capital equipment is explored.

## PRELIMINARY FINDINGS AND DISCUSSION

Preliminary analysis indicates that perceived risk of re-purchase ( $b = 0.62$ ,  $p < 0.05$ ) is negatively associated with intention to repurchase, rendering support for H1. In addition, degree of outsourcing ( $b = 0.28$ ,  $p < 0.05$ ) has a significant positive effect on perceived risk, supporting H2. The moderating effect ( $b = 0.04$ ,  $p < 0.01$ ) of co-capability on the relationship between degree of outsourcing and perceived risk was also significant. As such, we argue that unless the customer and provider demonstrate a strong

co-capability in achieving consistent equipment-based use, re-purchasing with the same provider may still carry a high risk and reduce the intention to repurchase.

## REFERENCES

Neely, A. (2008), "Exploring the financial consequences of the Servitization of manufacturing", *Operations Management Research*. Vol.1 No. 2 (December), pp. 103-118.

Ng, I., Ding, X. and Yip, N. (2012), Outcome-based contracts as New Business Models: The role of Partnership and Value-driven Relational Assets, Working paper. Coventry: Warwick Manufacturing Group

Rese, M. and Maiwald, K. (2011), Organizational Buying Behavior in Case of IPS<sup>2</sup>, J. Hesselbach and C. Herrmann (eds.), *Functional Thinking for Value Creation: Proceedings of the 3rd CIRP International Conference on Industrial Product Service Systems*, Technische Universität Braunschweig, Braunschweig, Germany, May 5th - 6th, 2011

Smith, L., Irene Ng and Roger Maull (2012), The three value proposition cycles of equipment-based service, *Production Planning & Control*, Vol. 23, No. 7, pp. 553-570

Smith, L., Maull, R., and Ng, I.C.L (in press) 'Servitization and Operations Management: A Service-Dominant Logic Approach' accepted for publication in *International Journal of Operations & Production Management*

Töllner, A., Blut, M. and Holzmüller, H. (2011), Customer solutions in the capital goods industry: Examining the impact of the buying center, *Industrial Marketing Management*, Vol. 40 (2011), pp. 712-722

Vandermerwe, S. and Rada, J. (1988), "Servitization of business: Adding value by adding services", *European Management Journal*, Vol. 6 No. 4, pp. 314-324.

# THE IMPACT OF CUSTOMER ENGAGEMENT BEHAVIORS ON JOB ENGAGEMENT AMONG SERVICE EMPLOYEES: CROSS-LEVEL MODERATION BY CUSTOMER ORIENTATION

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## ABSTRACT

Service providers today are faced with an increasingly complex problem: how to manage customers who want to engage in service process and simultaneously manage service employees who might be affected by the actions of these customers. To add to this problem, customers who engage in service process can more easily engage in the creation of value through shared inventiveness, co-design, and other discretionary behaviors (Ostrom et al. 2010). Consider, for instance, customers giving suggestions for service improvements to service employees or customers helping one another to improve their service experience. In recent research, these behaviors by which customers aim to benefit the firm and its stakeholders have also been labeled as customer engagement behaviors (van Doorn et al. 2010).

Although customer engagement behaviors (CEBs) are by definition discretionary, voluntary, helpful behaviors by which customers express their engagement towards the firm and its stakeholders, service employees might perceive CEBs as a threat. On the one hand, service employees might not like CEBs, as previous research showed that customers who engage in service processes might claim less responsibility than the service provider for failure and more responsibility than the service provider for success (Bendapudi and Leone 2003). On the other hand, not all service employees might be able to deal with CEBs, as illustrated by the occurrence of job stress among service employees who are confronted with customer engagement in service processes (Chan, Yim, and Lam 2010). Based on the aforementioned evidence, it is not inconceivable that CEBs do not always have a positive impact on job engagement among service employees.

To better understand how service employees can be managed to deal with CEBs, our research investigates the conditions under which CEBs generate job engagement among service employees. Drawing from the job demands and resources model (Bakker and Demerouti 2007), we argue that CEBs can act as job resources (i.e., behaviors that increase job engagement among service employees) or job demands (i.e., behaviors that decrease job engagement among service employees). In line with recent calls for contextualization (Chowdhury and Endres 2010), we hypothesize that the impact of CEBs on job engagement among service employees depends on characteristics of the work unit in which service employees work.

To investigate our hypotheses, we opted for a multilevel design and surveyed service employees in 27 work units in the nursing home sector

(n=303). A key finding of our study is that customer orientation of service employees at the work unit level moderates the relationship between CEBs and job engagement in such a way that CEBs increase job engagement in low-customer-oriented work units while CEBs decrease job engagement in high-customer-oriented work units. In other words, work units with low levels of customer orientation perceive CEBs as job resources, while work units with high levels of customer orientation perceive CEBs as additional job demands.

Our research builds on the CEB literature by looking at the perspective of service employees. By showing that a customer-oriented climate can be a constraint for job engagement among service employees that are confronted with higher levels of CEBs, we contribute to the customer orientation literature. The impact of customer orientation on the CEB-job engagement relationship also has managerial implications, in that managers will have to find ways to support customer-oriented work units to deal with CEBs. Several ways to support customer-oriented work units to deal with CEBs and avenues for future research are discussed.

## REFERENCES

- Bakker, A. B., and Demerouti, E., (2007), "The job demands-resources model: State of the art", *Journal of Managerial Psychology*, 22 (3), 309-328.
- Bendapudi, N., and Leone, R. P., (2003), "Psychological implications of customer participation in co-production", *Journal of Marketing*, 67 (1), 14-28.
- Chan, K. W., Yim, C. K., and Lam, S. S. K., (2010), "Is customer participation in value creation a double-edged sword? Evidence from professional financial services across cultures", *Journal of Marketing*, 74 (3), 48-64.
- Chowdhury, S. K., and Endres, N. L., (2010), "The impact of client variability on nurses' occupational strain and injury: Cross-level moderation by safety climate", *Academy of Management Journal*, 53 (1), 182-198.
- Ostrom, A. L., Bitner, M. J., Brown, S. W., Burkhard, K. A., Goul, M., Smith-Daniels, V., Demirkan, H., and Rabinovich, E., (2010), "Moving Forward and Making a Difference: Research Priorities for the Science of Service", *Journal of Service Research*, 13 (1), 4-36.
- van Doorn, J., Lemon, K. N., Mittal, V., Nass, S., Pick, D., Pirner, P., and Verhoef, P.C., (2010), "Customer engagement behavior: Theoretical foundations and research directions", *Journal of Service Research*, 13 (3), 253-266.

# THE IMPACT OF EMPLOYEE FRIENDLINESS IN THE SERVICE ENCOUNTER ON BRAND EXPERIENCE AND IMAGE

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## ABSTRACT

Employee behavior has an essential impact on brand success. In highly tangible services employees have to express high levels of friendliness to create differentiating feelings of warmth and consequently satisfaction. Research has already covered the relationship between employee friendliness and both customer satisfaction and loyalty, but has not studied the effect on brand experience and image yet. An experiment was conducted. Data shows that in highly tangible services employee's friendliness in the service encounter has a positive effect on brand experience, which in turn affects brand image and service quality perceptions, customer satisfaction and loyalty.

## INTRODUCTION

In times of a shift from goods to service orientation, the success of service brands is highly dependent on employee behavior (Vargo and Lusch 2004; Berry and Lampo 2004). Service research has suggested that brand experiences are created notably by direct interactions. In particular employee behaviors and appearances shape brand experience and image perceptions (Iacobucci, Ostrom and Grayson 1995). For many customers employees in the service encounter are the brand (Berry 2000; Kernstock and Brexendorf 2004). From their point of view, the employees convert messages communicated in the mass media (Mitchell 2002). Depending on whether the communicated brand promise will be satisfied by employee behavior, positive or negative effects on brand experience and perception will evolve (Esch 1999; Wentzel and Tomczak 2012). Thus, the "moment of truth" during the service encounter shapes the quality perception of the whole service and therefore determines the satisfaction and loyalty of the consumer towards the brand (Meffert and Bruhn 2009). It is therefore essential to emphasize the employees' role as brand ambassadors and highlight the impact of their behaviors on the brand.

## SERVICE AND BRAND EXPERIENCE

Companies do not generate their economic value through goods or services anymore, but by selling experiences (Pine and Gilmore 2000; Arnould, Price and Zinkhan 2002). Similar to brand experience, service experience is a is created when customers get in touch with a service (Helkkula 2011; Verhoef et al. 2009). Sandström et al. (2008) define service experience as "the total sum of functional and emotional outcome dimensions of any kind of service" (p. 118). Emotional experiences, created through active customer participation, are mediated by employees and cause cognitive and affective reactions influencing satisfaction (Smith and Bolton 2002; Homburg et al. 2006) and loyalty (Mayer-Vorfelder 2012). Sandström et al. (2008) are of the opinion that service experience can be used as

a benchmark for service quality which results from the comparison of subjective experiences with expectations that are created through brand drivers. Thus, brand experience is synonymous with service experience (Berry 2000).

A positive service and brand experience respectively promotes a superior quality assessment, customer satisfaction and shapes the brand perception. Berry and Lampo (2004) postulate that a service firm's brand can be "only as strong as the people performing the service" (p. 20f.), which is supported by Keller's customer-based brand equity approach. In contrast to controlled communication, customers use their experiences disproportionately to form their brand image (Berry 2000).

## FRIENDLINESS IN THE SERVICE ENCOUNTER

The employee's contribution to the brand is reached by brand behavior (King and Grace 2005). According to Girard (2007), it is necessary to direct the employee's behavior actively in order to generate a holistic experience. His investigation has shown that experience perception is influenced by employee's social competence, professional qualification as well as physical attractiveness (Girard 2007). Further considering service orientation this leads to employee service competent behaviour which determines the perception of service quality (Coenen 2001). In a nutshell, not only functional but also socio-emotional behaviors have to be considered as part of brand behavior. In particular social competencies like empathy, courtesy and friendliness generate emotional experiences (Coenen 2001).

For the success of the business, it is crucial to understand the major industry specific employee behaviors, which are used as cues to evaluate the service encounter (Coenen 2001). Especially in highly tangible services like fast food restaurants or public transport, which are characterized by low degrees of customer interaction and service customization (Schmenner 1986), employees have to express high levels of friendliness to create differentiating feelings of warmth and finally satisfaction (Goodwin and Smith 1990; Tsai and Huang 2002).

Many research studies have already addressed the connection between perceived friendliness and service quality as well as customer satisfaction and loyalty (Quelch and Ash 1981; Tsai and Huang 2002; Bitner et al. 1990; Brown and Sulzer-Azaroff 1994), but have not studied the effect on brand experience and image yet. Thus the following research questions (RQ) can be established:

- RQ 1: What is the effect of the perceived employee friendliness on service experience?
- RQ 2: What is the impact of service experience on satisfaction and brand image?
- RQ 3: What is the effect of perceived friendliness on brand image?
- RQ 4: What is the effect of brand image on behavioral intentions?

## THEORY AND FORMATION OF HYPOTHESES

According to emotional and cognitive theories (Izard 1994) positive emotions activated by a pleasant experience, i.e. positive employee behaviors, lead to positive quality evaluations and satisfaction (Rothermund and Eder 2008). In order to create emotional brand experiences beforehand, non-verbal employee behaviors are more effective than just language or verbal content (Kroeber-Riel 1993).

Role and script theory imply that the customer's satisfaction with the employee and hence with the service encounter depends on the customer's perceived fulfillment of the stereotypical employee behaviour expectations (Solomon et. al 1985). Consequently, perceived employee friendliness in highly tangible services should result in customer satisfaction. Following theory, O'Cass and Grace (2004) argue that interpersonal aspects, such as the friendly interaction with the employee in a service are more important than their mere presence. Johnston and Clark (2008) emphasize the role of friendliness as a value-enhancing and thus as a positive experiential determinant in a service that influences the satisfaction significantly compared to neutral factors. Therefore, the following hypotheses can be established for RQ 1 and RQ 2:

H1.1: The higher the employee's perceived friendliness, the more positive is the service experience.

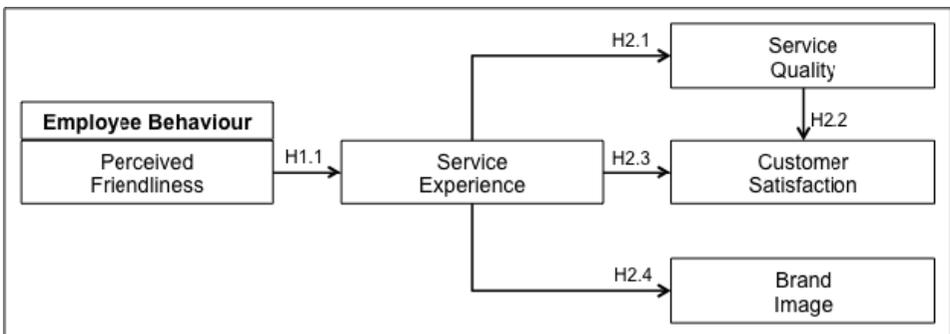
H2.1: The more positive the perceived service experience, the higher is the perceived service quality.

H2.2: The higher the perceived service quality, the higher is the customer satisfaction.

H2.3: The more positive the perceived service experience, the higher is the customer satisfaction.

H2.4: The more positive the perceived service experience, the more positive is the brand image.

Figure1: Hypotheses for RQ 1 and RQ 2



According to stereotype theory, stereotypes are schemas and refer to brand image (Bergler 1966). Brand image influences the expectations with respect to typical employee behavior (Bergler 1966; Wentzel and Tomczak 2012) and serve as criterion for the evaluation of the employee's behavior and the service encounter (Sujan et al. 1986). Whether the employee behavior has an influence on brand image depends on the extent the customer rates the employee as a member and representative of the brand (Wentzel 2009). The encounter in highly tangible services has a rather non-personal character (Wentzel and Groeger 2010), and the interaction follows a standardized script (Guttek 1999). As a consequence, the employee is considered as a typical and replaceable representative of the brand. Hence, the customer will draw a strong link between perceived employee behavior and the brand (Wentzel 2009). As such, if the customer perceives an employee as friendly or unfriendly, she will generalize the perceived behavior and associate it with the brand, which will shape the brand image (Wentzel 2009). Positive images and satisfaction lead to loyalty, whereas negative evaluations trigger avoidance tendencies, thus influencing behavioural intentions (Rothermund and Eder 2008). Thus, the following hypotheses are established for RQ 3 and RQ 4:

H3.1: The employee's perceived friendliness is positively associated with customer satisfaction.

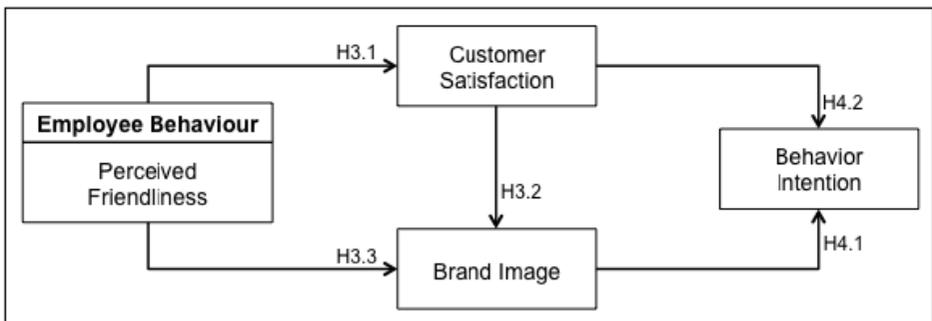
H3.2: The higher the customer satisfaction, the more positive is the brand image.

H3.3: The employee's perceived friendliness is positively associated with the brand image.

H4.1: Brand image is positively associated with the customer's behavioral intentions.

H4.2: Customer satisfaction is positively associated with the customer's behavioral intentions.

Figure2: Hypotheses for RQ 3 and RQ 4



## RESEARCH METHOD

A field experiment with a public transport company manipulating a conductor's friendliness (unfriendly, friendly) was chosen as test persons thus can immediately experience the real situation.

An experienced male account manager who trains conductors regularly was chosen as an actor. A detailed behavioural guideline ensured the construct and internal validity.

Data were collected through a written questionnaire. First, customers interacted with the conductor and then were asked to fill in the questionnaire consisting of perceived friendliness (Schöpf 2006), service experience (Brady and Cronin 2001), brand image (Boonghee and Donthu 2001), service quality (Dabholkar et al 2000), customer satisfaction (Specht et al 2007) and behavioural intentions (deRuyter and Wetzels 2000) Participants had to fill in seven-point Likert scales (Bortz and Döring 2006) and seven-step semantic differentials (Alex 2011).

The test persons were customers of the public transport company and were acquired during the journey. The net sample of 200 includes commuters (daily and weekly user) and occasional users.

## RESULTS

The manipulation check showed that the manipulated behaviors were perceived correctly. There was a significant difference between the mean values for the manipulation of friendliness. The effect size, as measured by Cohen's  $d$ , had a value of  $d=3.34$ .

All constructs showed a Cronbach's Alpha between 0,735 and 0,965 (Backhaus et al. 2006; Kaiser and Rice 1974). Furthermore, the high values of all item-to-total correlations of the EFA support the reliability.

Hypothesis H1.1 assumes that friendliness has a more positive influence on brand experience than unfriendliness. The t-test for independent samples showed significant differences ( $t(97.910) = 14,834$   $p < 0.001$ ) between the brand experiences depending on friendliness. The friendliness is rated 4.253, whereas the unfriendliness only with 2.960. The effect size is  $d = 0.967$ . Furthermore, the regression analysis showed that friendliness has a significant positive impact on the brand experience ( $\beta = 0.414$ ,  $p < 0.001$ ). Thus the hypothesis is supported.

Hypothesis H2.1 assumes a positive correlation between a positive brand experience and the perceived quality of the service. The regression analysis confirmed this positive significant effect of brand experience on service quality ( $\beta = 0.490$ ,  $p < 0.001$ ). The hypothesis is thus supported.

In hypothesis H2.2 a positive relationship between service quality and customer satisfaction is predicted. This significant positive influence of service quality on satisfaction was confirmed as  $p < 0.001$  and  $p = 0.626$ .

Hypothesis H2.3 posits a positive influence of the brand experience on customer satisfaction. The results of the regression analysis with  $\beta = 0.501$  and  $p < 0.001$  support this hypothesis.

Hypothesis H2.4 looks at the influence of the brand experience on brand image. The results of the regression analysis showed a positive and significant effect of positive brand experiences on the brand image ( $\beta =$

0.458,  $p < 0.001$ ). Hence, the hypothesis is supported.

Employee friendliness as perceived by the customer enhances customer satisfaction ( $\beta = 0.532$ ,  $p < 0.001$ ) as suggested by H3.1.

Customer satisfaction influences brand image ( $\beta = 0.440$ ,  $p < 0.001$ ), supporting the prediction of H3.2.

Furthermore, the relationship between employee friendliness and brand image is significantly positive ( $\beta = 0.338$ ,  $p < 0.001$ ), supporting H3.3.

RQ 4 studies the brand image's role with respect to customer's behavioral intentions. The direct effect from brand image to customer's behavioral intentions is highly significant ( $\beta = 0.580$ ,  $p < 0.001$ ), supporting H4.1. In comparison to that, the positive significant effect of customer satisfaction on customer's behavioral intentions ( $\beta = 0.530$ ,  $p < 0.001$ ) is less strong.

## DISCUSSION

The aim of the study was to show that the employee's friendliness in the service encounter has a significant impact on service experience as well as on brand image. Regarding service experience, the results of the experimental research confirm a significant positive influence of friendliness. A 17.2% explained variation of the total service experience is substantial. We were also able to show that the service experience has an impact on brand image. The results emphasize the positive impact of employee friendliness on service experience. We were able to support a direct positive influence of a benevolent service experience on customer satisfaction. Furthermore, the study also demonstrated an indirect connection between service experience and satisfaction via service quality, but also a direct influence of service experience on service quality. Moreover, the study showed that the impressions won by the customer during the interaction with the employee directly shape brand image, which supports the idea that the employee in the service encounter both represents and defines the brand (Bendapudi and Bendapudi 2005; Berry 2000; Mitchel 2002).

Besides, we shed light on the role of brand image with respect to customer's behavioral intentions. The results demonstrate that compared to the influence of customer satisfaction on customer's behavioral intentions, brand image prevails.

## LIMITATIONS AND IMPLICATIONS FOR FURTHER RESEARCH AND MANAGEMENT

Experience and individual behavior are multi-causally related. Consequently, a single factor such as employee behavior is not enough to influence the whole brand experience.

In a field experiment changes in the environment play a significant role and can influence the experience as well. Therefore, it is assumed that it was not possible to eliminate all confounding variables.

Furthermore, it has to be considered that the noticeable high mean value of above five for customer's behavioral intentions might originate from the fact, that the train company is the main means of transport for most.

Further research could examine possible mediators and moderators. Apart from employee friendliness, factors such as punctuality as well as cleanliness constitute major determinants of quality in trains (Buhbe and

Schlag 2003). In addition, the relevance of perceived friendliness to brand image and experience in different industries could be studied.

As the research has shown, employees have a significant impact on the brand and service experience respectively and image and thus serve as an indispensable resource for building strong brands. This thinking requires that employees see themselves as interaction managers and brand ambassadors. They need to understand that during an interaction with customers they are responsible for the customer experience with a brand. Such interaction experiences decide over the future of a further relationship between the customer and the brand.

Finally, the study results demonstrate the relevance of employee behavior for brand experience and brand image also for less interaction-intensive services, in which the employee with customer contact does frequently not affect the actual main service. As a result, it is essential for every kind of service provider and even for industrial companies, which offer product-related services, to regard the employees with customer contact as a valuable source of business success.

## REFERENCES

Alex, W. G., (2011), Marketing-Konzept 2.0 Marketing im Web-2.0-Zeitalter, 1st ed., Books on Demand, Norderstedt, Germany

Arnould, E. J., Price, L., and Zinkhan, G. M. (2002) Consumers. 1st ed., McGraw-Hill/Irwin, Boston

Backhaus, K., Erichson, B., Plinke, W., and Weiber, R., (2006), Multivariate Analysemethoden. 11th ed., Springer, Berlin, Germany

Bendapudi, N., and Bendapudi, V., (2005), "Creating the Living Brand", Harvard Business Review, 83(5) 124-132

Bergler, R. (1966), Psychologie stereotyper Systeme. Ein Beitrag zur Sozial- und Entwicklungspsychologie, Huber Hans Bern Verlag, Stuttgart, Germany

Berry, L. L., (2000), "Cultivating Service Brand Equity", Journal of the Academy of Marketing Science, 28(1) 128

Berry, L. L., and Lampo, S. S., (2004), "Branding Labour-Intensive Services", Business Strategy Review, 15(1) 18-25

Bitner, M. J., Booms, B. H., and Tetreault, M. S., (1990), "The service encounter: Diagnosing Favorable and Unfavorable Incidents", Journal of Marketing, 54(1) 71-84

Boonghe Yoo, C., and Donthu, N., (2001), "Developing and validating a multidimensional consumer-based brand equity scale", Journal of Business Research, 52(1) 1-14

Bortz, J., and D ring, N., (2006), Forschungsmethoden und Evaluation Human- und Sozialwissenschaftler, 4th ed., Springer, Heidelberg, Germany

Brady, M. K., and Cronin, J. J., (2001), "Some New Thoughts on Conceptualizing Perceived Service Quality: A Hierarchical Approach", *Journal of Marketing*, 65(3) 34-49

Brown, C. S., and Sulzer-Azaroff, B., (1994), "An assessment of the relationship between customer satisfaction and service friendliness", *Journal of Organizational Behavior Management*, 14(2) 55-75

Buhbe, A., and Schlag, B., (2003), "Das Verhalten des Busfahrpersonals und die wahrgenommene Dienstleistungsqualität", *Zeitschrift für Arbeits- und Organisationspsychologie*, 47(N.F.21) 12-23

Coenen, C., (2001), Serviceorientierung und Servicekompetenz von Kundenkontakt-Mitarbeitern. In: Bruhn, M. & Stauss, B. (eds.) *Dienstleistungsmanagement Jahrbuch 2011 - Interaktionen im Dienstleistungsbereich*. Gabler Verlag, Wiesbaden, Germany, 341-374

Dabholkar, P. A., Shepherd, C. D., and Thorpe, D. I., (2000), "A Comprehensive Framework for Service Quality: An Investigation of Critical Conceptual and Measurement Issues Through a Longitudinal Study", *Journal of Retailing*, 76(2) 139-173

de Ruyter, K., and Wetzels, M., (2000), "Customer equity considerations in service recovery: a cross-industry perspective", *International Journal of Service Industry Management*, 11(1) 91-108

Esch, F.-R., (1999). *Wirkung integrierter Kommunikation: ein verhaltenswissenschaftlicher Ansatz für die Werbung*, 4th ed., Deutscher Universitätsverlag, Wiesbaden

Girard, M., (2007), *Customer Experience Management an Kundenkontaktpunkten*, 1st ed., FGM Verlag, Munich, Germany

Goodwin, C., and Smith, K. L., (1990), "Courtesy and Friendliness – Conflicting Goals for the Service Provider?", *Journal of Services Marketing*, 4(1) 5-20

Guttek, B. A., (1999), "The Social Psychology of Service Interactions", *Journal of Social Issues*, 55 (3) 603-617

Helkkula, A., (2011), "Characterising the concept of service experience", *Journal of Service Management*, 22(3) 367-389

Homburg, C., Koschate, N., and Hoyer, W. D., (2006), "The Role of Cognition and Affect in the Formation of Customer Satisfaction: A Dynamic Perspective", *Journal of Marketing*, 70(3) 21-31

Iacobucci, D., Ostrom, A., and Grayson, K. (1995), "Distinguishing Service Quality and Customer Satisfaction: The Voice of the Consumer", *Journal of Consumer Psychology (Lawrence Erlbaum Associates)*, 4(3) 277-303

Izard, C. E., (1994), *Die Emotionen des Menschen*, 2nd ed., Psychologie-Verlag Union, Weinheim, Germany

Johnston, R., and Clark, G., (2008), *Service Operations Management*, 3rd ed., FT Prentice Hall, Harlow, England

Kaiser, H., and Rice, J., (1974), "Little Jiffy, Market IV", *Educational and Psychological Measurement*, 34 (1) 111-117

Keller, K. L., (1993), "Conceptualizing, measuring, managing customer-based brand equity", *Journal of Marketing*, 57 (1) 1-22

King, C., and Grace, D., (2005), "Exploring the role of employees in the delivery of the brand: a case study approach", *Qualitative Market Research: An International Journal*, 8 (3) 277-295

Kroeber-Riel, W., (1993), *Bildkommunikation*, 1st ed., Vahlen, Munich, Germany

Mayer-Vorfelder, M., (2012), *Kundenerfahrungen im Dienstleistungsprozess*, 1st ed., Gabler, Wiesbaden, Germany

Meffert, B., and Bruhn, H., (2009), *Dienstleistungsmarketing Grundlagen - Konzepte – Methoden*, 6th ed., Gabler, Wiesbaden, Germany

Mitchell, C., (2002), "Selling the Brand Inside", *Harvard Business Review*, 80 (1) 99-105

O'Cass, A., and Grace, D., (2004), "Exploring consumer experiences with a service brand", *Journal of Product & Brand Management*, 13 (4) 257-268

Pine, B., and Gilmore, J., (2000), *Erlebniskauf*, 1st ed., Econ, Munich, Germany

Quelch, J. A., and Ash, S. B., (1981), *Consumer satisfaction with professional services*. In: Donnelly, J. H. and George, W. R., (eds.) *Marketing of Services*. Marketing Association, Chicago, 82-85

Rothermund, K., and Eder, A., (2008), *Emotion und Handeln*. In: Brandstätter V., and Otto, H., (eds.) *Handbuch der Allgemeinen Psychologie-Motivation und Emotion*. Hogrefe, Göttingen, Germany, 675-685

Sandström, S., Edvardsson, B., Kristensson, P., and Magnusson, M., (2008), "Value in use through service experience", *Managing Service Quality*, 18 (2) 112-126

Schmenner, R. W., (1986), "How can service businesses survive and prosper?", *Sloan Management Review*, 27 (3) 21-32

Solomon, M. R., Surprenant, C., Czepiel, J. A., and Gutman, E. G., (1985), "A role theory perspective on dyadic interactions: the service encounter", *Journal of Marketing*, 49 (1) 99-111

Smith, A. K., and Bolton, R. N., (2002), "The effect of customers' emotional responses to service failures on their recovery effort evaluations and satisfaction judgments", *Journal of the Academy of Marketing Science*, 30 (1) 5-23

Sujan, M., Bettman, J. R., and Sujan, H., (1986), "Effects of consumer expectations on information processing in selling encounters", *Journal of Marketing Research*, 23 (4) 346-353

Tsai, W. C., and Huang, Y. M., (2002), "Mechanisms linking employee affective delivery and customer behavioral intentions", *Journal of Applied Psychology*, 87 (5) 1001-1008

Vargo, S. L., and Lusch, R. F., (2004), "Evolving to a new dominant logic for marketing", *Journal of Marketing*, 68 (1) 1-17

Verhoef, P. C., Lemon, K. N., Parasuraman, A., Roggeveen, A., Tsiros, M., and Schlesinger, L. A., (2009), "Customer experience creation: determinants, dynamics and management strategies", *Journal of Retailing*, 85 (1) 31-41

Wentzel, D., (2009), "The effect of employee behavior on brand personality impressions and brand attitudes", *Journal of the Academy of Marketing Science*, 37 (3) 359-374

Wentzel, D., and Groeger, L., (2010), Markendifferenzierung durch Mitarbeiterverhalten. In: Vöckner, F., Willers, C., and Weber, T., (eds.), Gabler, Wiesbaden, Germany, 77-93

Wentzel, D., and Tomczak, T., (2012), Ein sozialpsychologischer Erklärungsansatz von Brand Behavior. In: Tomczak, T., Esch, F. R., Kernstock, J., and Herrmann, A., (eds.) Behavioral Branding: Wie Mitarbeiterverhalten die Marke stärkt. Gabler, Wiesbaden, Germany, 47-64

# THE INFLUENCE OF PERSONALITY SYSTEMS ON VALUE CO-CREATION IN SERVICE SYSTEMS

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## EXTENDED ABSTRACT

According to recent service research, value co-creation takes place through actors' resource integration in the context of service systems which are embedded in social systems (Edvardsson et al., 2011). In these systems economic and social actors interact with other actors or entities, including business actors and public service providers, to create value for themselves. It is postulated that each resource integration event more or less changes the structure of the service system and thus influences future resource integration and value co-creation processes. The change of the system eventuates through practice-specific activities. Value creation and value perceptions of the actors therefore cannot be understood without considering the social context and social forces whilst acting in the service system. Yet, in this social context it remains unclear what drives the actors' value co-creating behaviors.

Service system research has so far mainly been influenced from computer science and service science. Two main categories of resources have been put forward; operand and operant, often referred to as actors (Vargo and Lusch, 2004). The first one denotes static resources such as machines, computers, information and products in general whilst the latter refers to dynamic resources, most often human actors but also for example robots. Operant resources are key since they possess knowledge and skills (Vargo and Lusch, 2008) to integrate, activate and operate on a constellation of resources and thus have a major influence on value in context. Thus resources are becoming and value is created only when human actors are in a specific situation with an intention to use this constellation of operand and operant resources. Value is thus not linked to the attributes of resources. Resources are what they do or accomplish for actors in a specific use-situation. It is about the doing; utilizing knowledge and skills, driving the car, using the cell phone or making decisions on which stocks to buy based on the information and advice provided. With this view actors become important and not only their knowledge and skills but also their norms and values, shaping their actions as well as their value assessment in their context. Social construction theory and norms and values have been introduced to better understand actors as resource integrators and their use of existing resources in a focal service system. Service systems have been conceptualized as being embedded in social systems to understand the forces that shape customers' and other actors' value co-creation behavior (Edvardsson et al., 2011).

However, actors' personalities have so far been neglected but have a major impact on their enacted role and behavior in different contexts. This conceptual research study investigates the underlying forces of value co-creating behavior anchored in the actors' personality profiles. We review

existing personality theories and introduce a systems view of personality to the co-creation discussion. Our focus is on operant resources (human actors) as entities consisting of personality systems which are embedded in and interact with social systems. The paper introduces a systems framework approach from psychology which locates the personality system in a wider social and hierarchical system called the biopsychosocial model (Engel, 1992; 1996). The lowest physical (bio) systems level refers to a human beings' brain and body, the next higher level depicts the personality systems level with all its sub-systems, such as the conative-affective-cognitive system, and the top level of the hierarchy is completed by the social and ecological systems, namely the social structures (groups and cultures) a human being interacts with. This model is then fused with a concept from human development theory (Bronfenbrenner, 1977; 1979) which relates to the outer world a human being faces. An individual experiences the world in various physical settings which are enablers for interactions and experiences. Situations are placed on the next higher level due to the view that they arise at a psychological level because they are relational, meaning laden (symbolic) and are superimposed on a physical reality (setting). This overarching systems framework which integrates different internal and external systems closely relates to the well known formula  $B = f(P, E)$ , depicting behavior (B) as a function of the person (P) and the environment (E) (Lewin, 1936; 1946). This conceptual study looks beyond the aspects of the "P" which have already been discussed in Service-dominant Logic, namely knowledge and skills of operant resources, and focuses on the core of the P, i.e. personality as a key innate driver of actors' activities and interactions (B) in service systems embedded in social systems (E).

Depending on the personality system, activities and interactions of actors influence the process of value co-creation as well as the perception of value differently. Actors may, for example, display a different persona in a service system compared to what their inner mental world looks like at that given point in time. Value may be co-created based on the persona displayed but value perceptions and ultimately the perceived value in social context may not match what the person aspires for due to the gap between inner and outer personality. Comparably, an actor may exercise certain aspects of their personality in one service system but use different aspects in another service system. This may be due to the "fit" or lack thereof of the individual's personality with the service system, i.e. other personalities present in the system setting, or it may be a tactical objective to do so. Usually, the higher the fit with the system the more likely it is that an actor fully displays all aspects of their personality due to the perceived level of comfort in the system. The better actors perceive themselves being embedded in the system the greater the probability they will integrate their resources when creating value and the greater the likelihood that value perceptions match value expectations and needs of the person(ality). It is postulated that a service system will attract actors who can relate to the service system due to the perceived closeness to other like minded entities in the system, i.e. complementing personalities. Likewise, other service systems may lead to repulsion of particular actors due to the perceived distance to the system and its actors. The presence of certain personality profiles may inhibit value creation and the functioning of a service system whereas other personalities will serve as enablers of resource integration

and value co-creation. This may lead to the identification of a particular constellation of operant resources in a given service system and shape the discussion of value creation and perception in service systems.

With our approach we thus broaden the understanding of service systems by adding to the recent view that service systems are embedded in and shaped by social systems.

# THE KEY TO SUCCESS OF SOCIAL MEDIA BRAND PAGES – COMPANY AND FAN INTERACTIVITY AS DRIVERS OF ENGAGEMENT

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## ABSTRACT

Social media brand pages like fan pages on Facebook are an important tool for an effective customer relationship management (Hennig-Thurau, et al., 2010). The main goal of social media brand pages is to empower customers to engage and participate in brand communication. However, what exactly drives customer engagement (i.e. active and passive participation) on these platforms is not clear so far. Therefore, the present paper examines possible drivers of customer engagement: company and fan interactivity. The results identify those concepts as success factors of engagement strategies and show that a positive brand attitude is not sufficient for driving customer engagement - companies have to encourage explicitly the interactivity of brand page members and be interactive on their own.

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## INTRODUCTION

Over the last years, communication between individuals – as well as between customers and companies – has dramatically changed. Social media channels, like Facebook, Twitter or YouTube have become important tools for an effective customer relationship management. Companies commonly use social media brand pages like fan pages on Facebook in order to communicate and interact with their customers (de Vries, Gensler, and Leeflang, 2012). The main goal of social media brand pages is to encourage customer engagement and strengthen the customer-brand relationship, which has an effect on behavioral intentions (Borle et al., 2012; Dholakia and Durham, 2010; Jahn and Kunz, 2012). Yet, so far only few empirical insights exist that examine the drivers of customer engagement on social media brand pages.

Interactivity is often stated as one of the key differences between traditional and new media (van Noort et al. 2011). Although interactivity is frequently believed to be a key success factor in social media, so far the concept has only been used for an evaluation of traditional brand websites (Fortin and Dholakia, 2005; Sicilia, Ruiz, and Munuera, 2005). Therefore, we apply in our study the concept interactivity in the social media context and show its importance for customer engagement.

## RESEARCH BACKGROUND

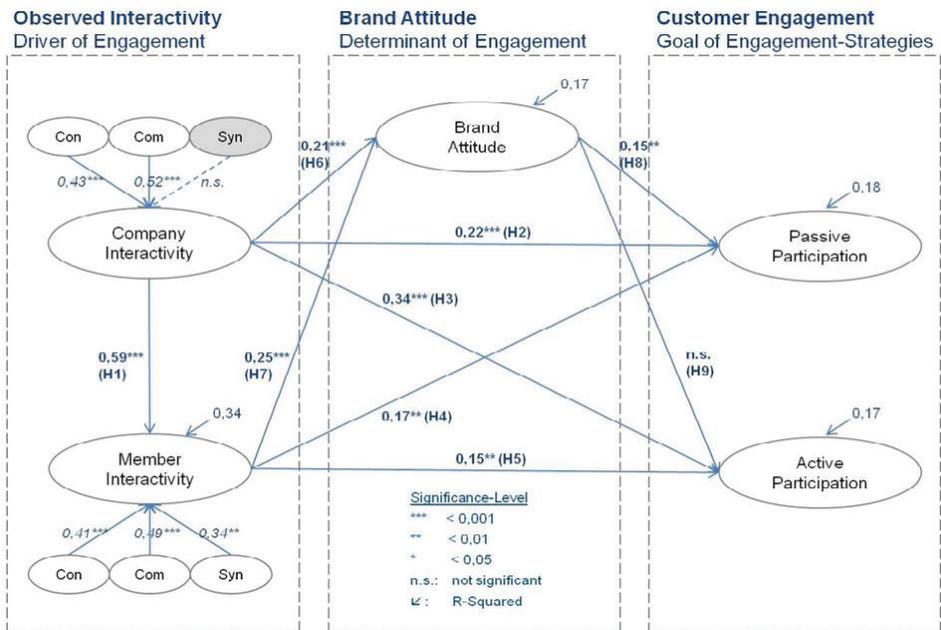
The theoretical framework of our study is based on the uses and gratifications (U&G) approach (Katz, 1959). Research concerning the U&G approach discloses motives for the active choice and usage of media. One important motive regarding media usage and participation is interaction (Rubin and Rubin, 1989). Hence, interactivity seems to be a key precondition and success factor of social media brand pages. There are various definitions of interactivity (McMillan and Hwang, 2002; Song and Zinkhan, 2008; van Noort, et al., 2011). Most commonly researchers use the definition and conceptualization of interactivity after Liu and Shrum (2002, p. 54). They define interactivity as “[. . .] the degree to which two or more communication parties can act on each other, on the communication medium, and on the messages and the degree to which such influences are synchronized.” It consists of three central dimensions: control, two-way communication and synchronicity. The control dimension is defined as the possibility to influence and co-create the information flow; two-way communication encompasses a reciprocal exchange of the involved parties; synchronicity specifies the speed of the reaction of the exchange partner. In our study we examine all three dimensions of interactivity and differentiate – following de Vries et al. (2012) - between company and member interactivity.

## THEORETICAL FRAMEWORK

Based on the U&G approach we expect a positive effect of company interactivity on member interactivity (H1). Moreover, we expect a positive relationship between the two interactivity types and passive and active brand page participation (H2-H5). Nowadays, customer want to be active producers in the value creation process and not only passive consumers (Deighton and Kornfeld, 2009; Hennig-Thurau, et al., 2010). Since company interactivity can be an indicator for a customer-oriented company, we expect a positive effect of company interactivity on brand attitude (H6). Taking into account research about herding behavior (Banerjee, 1992), we assume that member interactivity has also positive effects on brand attitude (H7), since observing members can infer that other interactive brand page participants have a positive attitude towards the brand. Finally, we suppose that a positive brand attitude leads to a higher passive (H8) and active (H9) participation (i.e. customer engagement). This can be explained by the higher degree of involvement a member with a positive brand attitude has (Zaichkowsky, 1985).

## METHODOLOGY

To test our model, we conducted a quantitative field study using an online survey. We collected the data sending the questionnaire to Facebook fan page users of the Ludwig-Maximilians-University. Additionally, we invited fan page members of manifold fan pages (e.g. Segafredo, Thomas Cook, Zalando) to participate in our study. In total 390 fully completed questionnaires were used to test the model. We analyzed the data by means of PLS modeling, since this meets the requirements of a partially formative measurement model (Hair, et al., 2012) (company and member



Con = control, Com = two-way communication, Syn = synchronicity Figure 1: Parameter Estimates for the Framework

## DISCUSSION

The present study reveals new insights concerning drivers of customer engagement (i.e. active and passive participation) in the social media context. First, company and member interactivity are drivers of customer engagement. However, the dimension “synchronicity” of interactivity does not seem to be important to the brand page members. The brand page members care more about a reciprocal exchange of the involved parties (“two-way communication”) and the possibility to participate actively in brand management (“control”). Second, brand attitude has a negligible effect on customer engagement. Based on this results implications for social media brand managers can be derived. First, it is crucial for companies to be interactive in the social media environment in order to use utterly the potential of social media brand pages. Second, companies should enable brand page members to participate in the brand management process. Third, social media manager should try to encourage interactive behavior of brand page members (with e.g. rewards) because it stimulates customer engagement (i.e. active and passive participation). Fourth, companies should be aware that brand attitude is not sufficient for driving customer engagement. Companies cannot rely on a positive brand attitude, they have to activate the brand page community in order to encourage customer engagement. All in all, companies have to put a lot of effort in being interactive in the brand page environment. Fortunately, the effort pays off because customer engagement helps strengthening the customer-brand relationship and loyal behavior of customers (Jahn and Kunz, 2012).

## REFERENCES

- Banerjee, A. V. (1992), A Simple Model of Herd Behavior, *Quarterly Journal of Economics*, 107 (3) 797-817
- Borle, S., Dholakia, U., Singh, S., & Durham, E., (2012), An Empirical Investigation of the Impact of Facebook Fan Page Participation on Customer Behavior, Unpublished Manuscript, Rice University
- de Vries, L., Gensler, S., Leeflang, P. S. H., (2012), Popularity of Brand Posts on Brand Fan Pages: An Investigation of the Effects of Social Media Marketing, *Journal of Interactive Marketing*, 26 (2) 83-91
- Deighton, J. & Kornfeld, L., (2009), Interactivity's Unanticipated Consequences for Marketers and Marketing, *Journal of Interactive Marketing*, 23 (1) 4-10
- Dholakia, U. M. & Durham, E., (2010), One Café Chain's Facebook Experiment, *Harvard Business Review*
- Fortin, D. R. & Dholakia, R. R., (2005), Interactivity and Vividness Effects on Social Presence and Involvement with a Web-Based Advertisement, *Journal of Business Research*, 58 (3) 387-396
- Hair, J. F., Sarstedt, M., Ringle, C. M., Mena, J. A., (2012), An Assessment of the Use of Partial Least Squares Structural Equation Modeling in Marketing Research, *Journal of the Academy of Marketing Science*, 40 (3) 414-433
- Hennig-Thurau, T., Malthouse, E. C., Friege, C., Gensler, S., Lobschat, L., Rangaswamy, A., Skiera, B., (2010), The Impact of New Media on Customer Relationships, *Journal of Service Research*, 13 (3) 311-330
- Jahn, B. & Kunz, W., (2012), How to Transform Consumers into Fans of Your Brand, *Journal of Service Management*, 23 (3) 344-361
- Katz, E., (1959), *Mass Communication Research and the Study of Popular Culture*, *Studies in Public Communication*, 2, 1-6
- Liu, Y. & Shrum, L. J., (2002), What Is Interactivity and Is It Always Such a Good Thing? Implications of Definition, Person, and Situation for the Influence of Interactivity on Advertising Effectiveness, *Journal of Advertising*, 31 (4) 53-64
- McMillan, S. J. & Hwang, J.-S., (2002), Measures of Perceived Interactivity: An Exploration of the Role of Direction of Communication, User Control, and Time in Shaping Perceptions of Interactivity, *Journal of Advertising*, 31 (3) 29-42
- Rubin, A. M. & Rubin, R. B., (1989), Social and Psychological Antecedents of VCR Use, In: M. R. Levy (ed.) *The VCR Age: Home Video and Mass Communication*, Newbury Park: Sage

Sicilia, M., Ruiz, S., Munuera, J. L., (2005), Effects of Interactivity in a Web Site, *Journal of Advertising*, 34 (3) 31-45

Song, J. H. & Zinkhan, G. M., (2008), Determinants of Perceived Web Site Interactivity, *Journal of Marketing*, 72 (2) 99-113

van Noort, G., Voorveld, H. A. M., van Reijmersdal, E. A., (2011), Interactivity in Brand Web Sites: Cognitive, Affective, and Behavioral Responses Explained by Consumers' Online Flow Experience, *Journal of Interactive Marketing*, 26 (4) 223-234

Zaichkowsky, J. L., (1985), Measuring the Involvement Construct, *Journal of Consumer Research*, 12(3) 341-352

# THE PERFORMATIVITY OF VALUE PROPOSITIONS IN SERVICE ECOSYSTEM: THE SUSTAINABILITY DOMAIN

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## ABSTRACT

This paper looks at the role of a company's stakeholder value propositions to frame service ecosystem in a sustainability domain. The ecosystem perspective has been employed to understand the interaction of actors in a sustainability context where the concepts of survival and the health of ecosystems are linked to a stakeholder-centred perspective of value. Ideas and practices are seen as means to grasp how companies support and perform a sustainability strategy within a service ecosystem.

Key words: service ecosystem, stakeholder value propositions, performativity, sustainability

## INTRODUCTION

The "Sustainability and Innovation Global Executive Study" (MIT 2012) has recently highlighted sustainability as an item on the management agenda of most companies. For-profit businesses are tackling social and environmental issues, and a new type of company, the 'For-Benefit Enterprise', which conducts social issue-oriented business, has appeared (Sabeti, 2011).

Sustainability is a relatively new topic in the marketing research field (Belz and Peattie, 2009), and the topic is featured with regard to new customer offerings that take into account environmental, social and economic issues. Research studies on the topic focus on the advantages that firms gain from achieving sustainability, but they do not explain the complex context in which sustainable business takes place. This complexity is consistent with the idea of a "service ecosystem" that has recently been introduced to describe an entangled system of actors and their interests and activities surrounding the firm's context (Vargo and Lusch 2011). This complex system is characterised by mutual value propositions and service provision and governed by socially constructed institutions. Some scholars (Edvardsson et al., 2011) propose viewing value proposition –a company's promise of value –from a multiple stakeholder domain (Frow and Payne, 2011; Chandler and Vargo, 2011). However, studies on how to reconcile value and service ecosystem with sustainability are still in their infancy. This paper looks at the role of company stakeholder value propositions to frame service ecosystem in a sustainability domain.

Inspired by discussion in the research of Kjellberg and Helgesson (2006; 2007) and paraphrasing that "service-ecosystem (market in original) is shaping in many ways", we analyse the performative role of stakeholder value propositions in service ecosystem. We adopt the idea of performativity as a link between the world of ideas and the world of practices regarding what a service ecosystem can be and what it effectively is. We find that

sustainability ecosystem is enmeshed with ideas, social structures, norms and values to which framing the performativity of value proposition contributes.

The remainder of the paper is organised as follows: firstly, we conduct a literature review on the concept of service ecosystems, stakeholder value propositions and practices. Secondly, research method and findings are presented, and finally, we close the paper with a preliminary discussion including the implications of this research.

## SERVICE ECOSYSTEMS

The vision of service systems within Service-Dominant Logic (Vargo and Lusch 2004, 2009) and service science (Vargo et al, 2008) takes a dynamic approach in the study of market and value creation processes. Service systems are defined as a configuration of resources including people, organisations, information and technology (Mele, Polese 2011) that survive, adapt and evolve through the exchange and application of those resources. Service systems engage in connection and exchange with other service systems through value propositions to enhance adaptability and survivability. The emphasis is on collaboration with value co-creation processes and on establishing an interdependent framework for systems of reciprocal service provision (Vargo et al. 2008).

Vargo and Lusch (2011) use the concept of business ecosystems (Iansiti and Levien 2004) to describe that, similar to biological ecosystems, business networks are characterised by a large number of loosely interconnected participants who depend on each other for mutual effectiveness and survival. According to Vargo and Lusch (2012, p. 31) the service ecosystems depict relatively self-contained, self-adjusting system of resource integrating actors connected by shared institutional logic and mutual value creation through service exchange. From the ecosystems perspective, the actions and interactions among service providers continuously sustain and reproduce the system by socially constructing institutional logic or mental models that, in return, influence activities and exchanges (Singh et al. 2011). The norms of social interaction and collective meanings contribute to create structures designed to 'manage' (or at least influence) ecosystems and increase their viability (Wieland et al 2012). The ecosystems perspective is different from a traditional business network perspective in that each instance of resource integration, service provision and value creation changes the nature of the system and thus the context for the next iteration and determination of value creation (Wieland et al 2012 p. 15).

This perspective should be further explored to include value processes such as value proposition and value practices.

## VALUE PROPOSITION AND MULTIPLE STAKEHOLDER PERSPECTIVE

Value proposition is a key topic in marketing research with a narrow focus on customer perspective regarding delivery processes (Anderson et al 2006). The traditional definition of a company's promise of value concerns the total offering to customers and includes the process of creating value and a delivery system through which value is provided and communicated.

Service-Dominant logic (Vargo and Lusch, 2004, 2009), contrastingly, conceptualises value proposition in terms of the potential value offering. It defines the different mix of resources that firms deploy to provide input for customer value creation processes. Thus, as indicated in FP7, the 'supplier' cannot deliver value but can only offer a value proposition. It is for the user of that value proposition to co-create and experience the value with the value proposition setting expectations of value in-use (Vargo and Lusch 2009).

This view has been expanded to include the description of value proposition as reciprocal and mutual promises not between two parties only - as dyadic promises of value - but among multiple actors (Vargo and Lusch Ballantyne et al. 2011). Gummesson (2008) claims that balance centricity epitomises the network-based stakeholder approach to market, and Vargo (2011a, 2011b) provides insight into the complexity of markets as configurations recognising a multiplicity of actors as resource integrators tied together in shared systems of exchange service ecosystems or markets. Accordingly, Frow and Payne (2011) explore the development of value propositions in key stakeholder market domains. In their view, stakeholder value propositions provide enhanced opportunity for value co-creation by assisting companies in aligning values and stabilising relationships within their value network. Similarly, Storbacka and Nenonen (2011) propose the term 'market proposition' to capture the unifying nature of the market and value creation process. They define market proposition as resource integration promises and state that firms make value propositions to all stakeholders by creating a market configuration that makes increased density of resources and capabilities (Storbacka and Nenonen 2011).

These discussions show that the debate on value proposition is increasing and more in depth analysis represents a priority in the same SD logic debate as Vargo and Lusch (2009) stated by considering this topic ripe for further elaboration.

## PRACTICES AND PERFORMATIVITY

Despite value propositions forming a central topic in recent marketing debates, there has been little explanation of conceptualisation with regard to business practices (Kowalowski et al 2012). A recent debate on market practices (Kjellberg and Helgesson, 2006, 2007; Araujo, 2007) suggests a social reality perspective where the market is understood to be constructed and stabilised by interacting actors. Kowalkowski (2011) proposes the adoption of a practice-centred perspective to better explain the understanding of the innate intricacies of forming a value proposition. Adopting co-creative practices as a starting point, the author provides a

working description of how value propositions are co-created through a reciprocal exchange of knowledge among resource-integrating actors. Additionally, Ballantyne et al. (2012) position the idea of a reciprocal value proposition as a communication practice that guides resource integration between stakeholders that brings closer exchange activity, relationship development and knowledge renewal.

The constitutive perspective on market has pushed some authors (Kjellberg and Helgesson 2006, 2007) to study how ideas - the pre-constitute aspects of the market such as norms and meaning - participate in shaping reality through the translation of ideas into practice. In particular, Kjellberg and Helgesson (2006) introduce the notion of performativity linking the world of market ideas, i.e., what the market should be, and the world of market practices, i.e., how the markets really are.

Performativity stems from the speech act theory of language philosophy and this term is first introduced in economic disciplines by Callon (2007) who proposed the study of the performative aspect of economics. According to the performativity view, theoretical constructs are not simply a guide to describe reality, but actively contribute to the construction of reality by shaping actual processes. Kjellberg and Helgesson's (2006) notion of performativity suggests viewing the market as framed by a multiplicity of actors in performing three interlinked types of activity or practices: exchange practices, representational practices and normalising practices (Hagberg and Kjellberg 2010).

## RESEARCH AIM

Ecosystems, stakeholders and practices are phenomena that embrace sustainability in a profound way. The ecosystem perspective can be employed to understand the interaction of actors in a sustainability context where the concepts of survival and the health of ecosystems are intrinsically linked to a stakeholder-centred perspective of value. This perspective takes into account social norms and institutional structures that support ecosystem viability. Ideas and practices can be seen as means to grasp how companies support and perform a sustainability strategy within a service ecosystem. This paper looks at the role of a company's stakeholder value propositions to frame service ecosystem in a sustainability domain. We articulate this aim into three steps:

1. to understand how companies shape stakeholder value propositions in a sustainability domain (the idea level);
2. to understand how stakeholder value propositions shape practices performed by companies (the practice level).
3. to understand the role of stakeholder value propositions and practices to frame service ecosystem (the performativity level).

## RESEARCH DESIGN

### Context

Our research context is formed by a community of B-corporations, a new type of corporation that uses the power of business to solve social and environmental problems. Such corporations are certified by the non-profit organisation, B Lab, and must meet rigorous standards of social and environmental performance, accountability, and transparency. B-corporations stay for “Better companies” and their value proposals embed the “Better offerings” to strive the concept of something better in the perspective of sustainability. B-corporations (or B-corps) share collective values including the principles, standards, ethics and ideals that guide the actions of people and organisations alike. This community is growing daily and includes organisations from more than 50 different industries. The B-corporation community is increasing at an impressive rate, growing from 450 at the end of 2011 to 700 as of April 2013.

We selected a sample of B-corporations that were achieving the best results. From both large and small companies we chose those with an “overall impact in the top 10%”. A total of 44 firms were considered, however, three were excluded because the access to company documentation was not possible.

### Method

To determine company’s proposals, values and practices, we analysed companies’ documents through content analysis. The analysed documents were composed by two parts: 1) the “we are” part, that consisted in a description of the company’s aims, values, offerings, activities and the reasons why it became a B-corporation; 2) “the change we seek” part, that consisted a presentation of the company’s vision/mission, commitment, proposals and operations.

As Weber notes (1990), content analysis classifies textual material reducing it to more relevant, manageable bits of data. Our analysis began with the identification and quantifying of certain words or content in documents to grasp their contextual use. Quantification was conducted to explore usage and not to infer meaning, as advised by Hsieh and Shannon (2005). However, the analysis was not only limited to measuring the frequency of specific words or content (i.e., manifest content), but it also included a summative approach (Hsieh, Shannon, 2005) to discover underlying meanings of the words or the content and used quotations to illustrate issues and phenomena revealed by the investigation (i.e. latent content).

### Data Collection and Analysis

The documents were considered raw materials: our database consisted of 547 sentences and more than 12000 words. We began our research by defining the categories. Keywords were derived from our literature review based on three topics: stakeholders; value propositions and practices.

Data collection and analysis were divided into two phases. Firstly, all contents of a document were taken into account in “full concordance”. Consistent with the summative approach to qualitative content analysis, we searched for occurrences of identified words by computer using Concordance (version 3.3) software. Word frequency counts for each identified term was calculated (Appendix 1). The first part of the research provided the opportunity to focus on the three topics. Secondly, the three categories were coded in accordance with standard qualitative procedures. This is known as “selective concordance”. We set a limit of closeness for all the couples whereby a couple is considered only if the two terms are separated by less than five other words.

In accordance with our research aims, the findings were organised in three steps: idea level, practice level and performativity level.

## FINDINGS

The idea level: stakeholder value propositions of B-corporations  
B-corporations propose offerings based on collective values. Their services and goods are developed around ideas like ethical values, social and environmental values and with a degree of concern for the population in general. The following quote illustrates this issue:

*“For us becoming a B corporation was a formal acknowledgment of our commitment to the community we serve, our team members, shareholders and the environment. It was another great step we took to ensure that our values and commitment were further engrained in our company’s DNA” (source documents from Firm N. 28).*

A relevant focus on the environment consistently emerges as the main concern for B-corporations and as the most important topic regarding their value propositions. The environment is considered important to preserve and, in some cases, to rebuild through sustainable local and global business approaches. The social component is a more detailed feature of company proposals and is often linked to the mission, responsibility, and company impact. One firm quotes:

*“We become a founding B corporation because we share in the belief that organisation which embrace the triple bottom line are helping to shape a socially just and ecologically regenerative civilisation” (source documents from Firm N. 16).*

The word education is mainly understood as the necessity of spreading a social and sustainable aim among stakeholders. There is a growing commitment among a heterogeneous set of players to meet the challenges of value change and to provide associated benefits. B-corporations are concerned with their impact on both their immediate and more distant context. In their value proposals, companies refer to a large group of stakeholders (see Appendix 1), and substantial attention is given to community involvement generally, and to employees, customers, suppliers and investors specifically. All of these groups are beneficiaries of the ideas and propositions developed by B-corporations.

## The practice level : The practices of B-Corporations

For the socially conscious entrepreneur, becoming a member of the B-corporation community means more than a commitment to “make money and do some good for others at the same time”. B-corporations strive to produce a tangible positive impact on society by considering how their offerings can contribute and affect their own business context. Positive global change from the perspective of sustainable company projects begins with an examination for how firms can contribute to business change. For this reason, each firm provided a “change we seek” perspective to address the core aim of B-corporations: redefining success in business. What emerges is a set of practices that configure actions of B-corporations to develop business activity that promotes positive change. Three practices were identified and were named as follows: 1) creating collective sense, 2) supporting and 3) improving.

One practice of critical and urgent concern expressed by B-corporations is the commitment to create a collective sense of change. B-corporations strive to build a shared meaning of sustainability by unifying customer and other stakeholder needs and aligning their beliefs to economic, social and environmental values. Companies attempt to influence stakeholder view regarding what sustainability really means by providing clear and relevant evidence of the benefits of sustainable practices. The following quote illustrates how a company attempts to elicit conscious support of sustainability from its customers:

*....."until we reach profitability we are donating more annually to charities which benefit at risk children worldwide" (source documents from Firm N. 9).*

B-corporations seek to unlock the resource potential of their environments by actively supporting (and helping) stakeholders in their sustainability change practices. In so doing, B-corporations provide stakeholders with practical and tutoring support to improve the environmental and social aspects of activities, and in some cases, the same services are extended to customers and communities of B-corporation clients. In a similar way, many B-corporations become drivers that establish and diffuse sustainability standards in their industry and supply chain.

Finally, B-corporations work to improve the context they share in order to remain close to their sustainability goals and values. The extent to which B-corporations articulate their sustainability efforts relies on their ability to signal to shareholders, investors and other stakeholders what to expect from B-corporation activity. They clearly provide their way to correspond to how they act. In this sense B-corporations publicly report on their social and environmental performances using established third-party standards. These reports allow companies to demonstrate the walks their talk about being a better company. Such reports are also considered a meaningful tool generating new ideas regarding goal setting for improvements in sustainability practices.

The performativity level: The framing of sustainability service ecosystem

B-corporations promote a new model for companies that develop through a dynamic process fuelled by changing values and practices in the wider stakeholder context. B-companies move their value propositions towards a unified goal that redefines the logic of success in the business. Such companies consider sustainability values as the building block for value creation processes among stakeholders. Company approach to sustainability is seen as a way to impact on the world. The Impact Report collected from firms includes the following quote:

*“Transforming How We Make Money While Making a Difference”. We need to work on to create the system/framework for B-Corps ... We strongly believe that this is the way to go, we need to change the way we are doing all kind of businesses” (source documents from Firm N. 23)*

Business economy for B-corporations combines the opportunity to solve social and environmental problems with the ability to provide better conditions for value creation processes for companies and stakeholders. Goals are not only profit-oriented but also include benefits for everyone in the service ecosystem. To be a B-Company, therefore, means to be part of a shared values-laden context built around rigorous ideas and standards of social and environmental performance, accountability, and transparency.

The B-corporations value propositions highlight sustainability in the context of business so that socially minded organisations can pursue their goals as efficiently as possible. They strive to make the values of sustainability achievable by proposing their idea of sustainability and working to implement this idea in practice within the business ecosystem. The following two quotes illustrate this issue:

*“Our aim is to grow a fluid and mobilised global ecosystem where any enterprising idea can enter at a local level and immediately scale sustainable impact” source documents from Firm N. 35). We strive to create products that protect health but do so at no net cost to our planet or our quality of life. They aim to enrich the lives of their users, their retailers, their stakeholders and their neighbours. This is our Ecosystem and the basis of their triple bottom line” (source documents from Firm N. 9)*

Value propositions are not only a commitment to provide add-on benefits for customers in order to achieve strategic advantage, but they involve the diffusion of values, norms and ideas that surpass a basic offering of sustainable products. Value propositions enable a compelling and self-powered experience of sustainability capable of regenerating the ecosystem.

*“The company is driven by sustainable prosperity and by cultural, social and ecosystem regeneration. In a transition toward green and socially economies, the company creates community and sustainable public value with its clients, suppliers, competitors and strategic partners” (source documents from Firm N. 12).*

B-corporations use the power of their economic activities to bring their proposals and values of sustainability in the context of the real practices in order to impact on the way the business is meant and performed. The practices of creating a collective sense depict the B-corps role in these efforts. B-corporations operate not just as promoters of sustainability, but they spread their vision and inspire others with common values of sustainability. The ideas, standards and the underlying values are not only ideal goals to which adjust and try to combine the economic or mere functional needs of B-corporations. The ideas and standards constitute the way of doing of B-corporations through which the idea of sustainability is not only created and shared but mainly implemented. The vision of sustainability is supported by the premise that all entities and organisations are mutually dependent, and this premise is demonstrated by the B-corporation's practices of support and improvement of others. Practices are led by a business vision that relies on the actions of interconnected actors who depend on one another for their mutual effectiveness and well-being. Through their value propositions firms attempt to innovate the practices of service ecosystem, such as rules, actions and performance, and try to achieve alignment of the respective interests of all actors around the common values of sustainability. The performative role of B-corporation value propositions consists of promoting a collective project that is reliant on shared values, rules and norms that introduce the B-corporation's views and interests towards building a better business in real practices of business context. In the words, a B-corporation aims:

"To create an ... ecosystem filled with companies that matter to the world, because the world matters to them"(source documents from Firm N. 33).

## DISCUSSION

This paper aimed to understand the role of company value propositions to frame a service ecosystem in a sustainability domain. We investigated this topic according three aspects: idea level, practice level and performativity level.

According to the idea level (i.e., how companies shape stakeholder value propositions in a sustainability domain), our findings showed that B-corporations contribute to the framing of service ecosystem through their contribution of ideas on sustainability: collective values shape value propositions. Companies offer values, not simply goods and services and seek a change in the service ecosystem in terms of rules, norms and collective values for all stakeholders. B-corporation value propositions enable sustainability to occur in an environment in which every actor is connected to another through collective values. In accordance with the findings of Payne and Frow (2012), we note that value propositions are shaped by transforming the logic of individual value creation– for the customers and/or for the firms–to a more integrated viewpoint that posits emphasis on all actors involved in the service ecosystem. Value propositions can unify stakeholders (Frow and Payne, 2011; Lusch and Webster, 2011) through the co-creation (Vargo, 2011) and reciprocal promises of value (Ballantyne et al. 2011) initiated and/or participated by companies through the engagement of actors in collective sensemaking activities aimed at creating a shared market view (Storbacka and Nenonen 2011). The

second level of analysis moves to the practices (how stakeholders' value propositions shape practices performed by companies). This analysis provides understanding as to how firms face current economic and social challenges and lead their practices to the effectiveness of the business ecosystem at whole. A sustainability ecosystem cannot be observed from a unilateral value creation perspective (firm or customer) as it relies on ideas as well as practices that a multiplicity of actors brings in the context of their actions in order to actualize their value processes. Our study proposes a dynamic view that considers the social and institutional context, not as pre-existent and fixed, but as emerging by dynamic interaction between actors who use their power to influence the practices within the ecosystem.

Value propositions guide the practices performed by companies and a process of translation between ideas and reality can occur. The performativity level (i.e., the role of stakeholder value propositions and practices to frame service ecosystem) addresses the ability of companies (B-corporations) to connect the world of ideas and practices concerning what an ecosystem can be and what it effectively is. In line with Kjellberg and Helgesson (2006), this study illustrates how the world of ideas and practices of one service system, the B-corporation service system, can participate in shaping the world, ideas and practices of other service systems and contribute in the framing of service ecosystems at whole. Our study contributes to research that considers service ecosystems as an emerging process and a result of a multiple agents interactions.

The performativity level contributes to the extant research by expanding our conceptualisation of value propositions from the sphere of possibility about a mere promise of benefits from one party to another party to a realm of practices, making sense and inspiring actions of a multiplicity of actors in a shared values context.

B-corporations do not simply add a social or environmental dimension to their value proposition (Porter and Kramer, 2006) but make ideas happen by performing actions in the context of collective values.

What emerges is a conceptualisation of service ecosystems and value processes that are neither firm- nor customer-centric, but that revolve around practices seen as the concrete activities that constitute the ecosystem. We add on the Vargo and Lusch' study (2009, 2011) that views an ecosystem as a system that is composed of loosely coupled actors linked by competence and other resources. A sustainability ecosystem is intermeshed within the ideas, values, norms and actions to which framing the performativity of value propositions widely contributes. These elements provide the social and institutional context underlying the value creation process and support the concept of value in a social context (Edvardsson et al. 2012), fitted to describe the multifaceted nature of value creation in sustainability.

## IMPLICATIONS AND FURTHER RESEARCH

Our research provides evidence regarding the performativity role of company value propositions in framing sustainability ecosystems. Our results can encourage a better understanding among researchers of the company role regarding ecosystems, and how they may attempt to introduce and establish new values that influence business practices within ecosystems. The practices of actors and their ability to shape influences from collective values should focus on the dynamics of service ecosystem. The study is limited by the research method. The content analysis is an unobstructive means to analyse meaning and relationships, however it could be reductive to a full understanding of a complex phenomenon because it is also important to interview actors to verify consistency between company documents and actors' behaviour (including the issue of the matching between theory in use and espoused theory). Further research should include an analysis of organisations within different business contexts and their efforts to establish new values. This study prompts new questions regarding the shaping of value propositions within service ecosystems. There is a need for more research on the differences between what is ideal and what the practices in the shaping of service ecosystems are.

These results have implications for managers. If a company's focus is on ecosystems as a whole and not simply an individual company's perspective, then sustainability will be necessarily intermeshed with practices and values of the all ecosystem actors. This implies that all actors should be seen as co-responsible for others in the same way that they co-create value for themselves. Regarding company strategy, there is a need to build new business models based on value offerings rather than products or services. Adopting this perspective will contribute to the alignment of interests and practices of all actors in the ecosystem. Firms should be aware that their strategies are tools for framing the service ecosystem by seeking changes in the practices of a number of actors to achieve shared values and practices that support the sustainability of ecosystem at whole.

## REFERENCES

- Anderson, J., Narus, J., & Rossum, W. (2006). Customer Value Propositions in Business Markets. *Harvard Business Review*, March, 91-99
- Araujo, L. (2007), "Markets, Market-Making and Marketing", *Marketing Theory*, 7, pp. 211-226.
- Belz F.M, Peattie, K. (2009), *Sustainability Marketing: A Global Perspective*, John Wiley & Sons.
- Ballantyne, D., Frow, P., Varey, R. J., Payne, A. (2011), "Value propositions as communication practice: Taking a wider view", *Industrial Marketing Management*, 40 (2), pp. 202-210.
- Callon, M. (2007), "What does it mean to say that economics is performative?" in D. MacKenzie, F. Muniesa and L. Siu (eds.) *Do economists*

make markets? On the performativity of economics, pp. 311-357.

Chandler, J. D., Vargo, S. L. (2011), "Contextualization and value-in-context: How context frames exchange", *Marketing Theory*, 11(1), 35-49.

Edvardsson, B., Tronvoll, B., Gruber, T. (2011), "Expanding understanding of service exchange and value co-creation: a social construction approach", *Journal of the Academy of Marketing*.

Frow, P., Payne, A. (2011), "A stakeholder perspective of the value proposition concept," *European Journal of Marketing*, Vol. 45 No. 1/2, pp. 223–240.

Gummesson, E. (2008), "Customer centricity: reality or a wild goose chase?," *European Business Review*, Vol. 20 No. 4, pp. 315-330

Hagberg J, Kjellberg H. (2010) Who performs marketing? Dimensions of agential variation in market practice *Industrial Marketing Management* 39 1028–1037

Hsieh, H.-F., Shannon, S. E. (2005), "Three approaches to Qualitative Content Analysis", *Qualitative Health Research*, 15.

Iansiti, M., Levien, R. (2004), "Strategy as ecology", *Harvard Business Review*.

Kjellberg, H., Helgesson, C. F. (2006), "Multiple versions of markets: Multiplicity and performativity in market practice", *Industrial Marketing Management*, 35 (7), pp. 839-855.

Kjellberg, H., Helgesson, C. F. (2007), "On the nature of markets and their practices", *Marketing Theory*, Vol. 7 No. 2, pp. 137-62.

Kjellberg, H., Storbacka, K. Akaka, M. A., Chandler, J., Finch, J., Lindeman, S., Löbler, H. (2012), "Market futures/future markets: Research directions in the study of markets", *Marketing Theory*, 12 (2), 219-223.

Kowalkowski C. A., Ridell O. P., Rödell J. G., Sörhammar D. (2012), "The co-creative practice of forming a value proposition", *Journal of Marketing Management*, 1, pp. 1–18.

Kowalkowski, C. (2011) Dynamics of value propositions: Insights from Service Dominant Logic *European Journal of Marketing*, 45 (1), 277- 294.

Lusch, R. F., & Webster, F. E. (2011). A stakeholder-unifying, cocreation philosophy for marketing. *Journal of Macromarketing*, 31(2), 129–134.

Mele, C., Polese, F. (2011), "Key dimensions of Service Systems in Value-Creating Networks", in *Service Science: Research and Innovations the Service Economy*, pp. 37-59.

Porter, M., Kramer, M.R. (2006), "Strategy and Society: The Link Between

Competitive Advantage and Corporate Social Responsibility”, *Harvard Business Review*, December 2006, pp. 78-92.

Sabeti, H. (2011), “The for-benefit enterprise”, *Harvard Business Review*.

Singh, J, Lentz P., Nijssen E. J. (2011), “First- and Second-order Effects of Consumers” Institutional Logics on Firm-Customer Relationships: A Cross-market Comparative Analysis,” *Journal of International Business Studies*, 42, 307-333.

Storbacka K., Nenonen, S. (2011), “Scripting markets: From value propositions to market propositions”, *Industrial Marketing Management*, 40, pp. 255–266.

Vargo S. L (2011a) “From Micro to Macro: Stakeholders and Institutions” *Journal of Macromarketing* 31: 125

Vargo, S. L. (2011b) Market systems, stakeholders and value propositions Toward a service-dominant logic-based theory of the market, *European Journal of Marketing* Vol. 45 No. 1/2, 2 pp. 217-222

Vargo, S. L., Lusch, R. F. (2004) “Evolving to a new dominant logic for marketing”, *Journal of Marketing*, 68(1), 1–17.

Vargo, S. L., Lusch, R. F. (2009), *A Service-Dominant Logic for Marketing*, *The SAGE handbook of marketing theory*.

Vargo, S. L., Lusch, R. F. (2010), “From Repeat Patronage to Value Co-creation in Service Ecosystems: A Transcending Conceptualization of Relationship”, *Journal of Business Marketing Management*, 4, pp.169–179.

Vargo, S. L., Lusch, R. F. (2011), “It’s all B2B and beyond...: Toward a system perspective on the market”, *Industrial Marketing Management*, 40, 181-187

Vargo, S. L., Lusch, R. F. (2012), *Service- dominant logic: a forward look*” presentation at The Tekes-serve annual seminar, Helsinki 26-04-2012.

Vargo, S. L., Maglio, P., Akaka, M. A. (2008), “On Value and Value Co-creation: A Service Systems and Service Logic Perspective”, *European Management Journal*, 26 pp. 145-152.

Weber, R. P. (1990), *Basic content analysis*, 2nd ed. Newbury Park: Sage.

Wieland, H., Polese, F., Vargo, S. L., Lusch R. F. (2012), “Toward a service (eco) systems perspective on value creation”, *International Journal of Service Science, Management, Engineering, and Technology*, 3, 3, pp. 12-25.

# THE ROLE OF CURIOSITY IN CONSUMER BEHAVIOR

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## ABSTRACT

This study examines the role of curiosity in consumer behavior. Study 1 measured participants' reactions to a website selling a mystery product. In Study 2 we attempted to elicit curiosity by manipulating the amount of information provided on the website. In Study 3 we investigated whether the use of mystery in the sale of a product is more successful than the standard practice of full disclosure. Results revealed that participants were more curious when provided with moderate information. Furthermore, curiosity predicted purchase intentions, satisfaction, and positive word-of-mouth.

## INTRODUCTION

An increasing challenge in today's competitive landscape is to break through the clutter and noise and find new ways to reach consumers. One emerging trend being used by companies such as Jet Blue, Doritos, and California Pizza Kitchen involves intentionally giving consumers limited information in hopes of driving behavior. Despite the emergence of the mystery strategy in the field, little research has sought to understand why it works. We propose curiosity, which we define as "the desire to know" (Lowenstein, 1994), is what drives consumer behavior in response to mystery.

As a starting point, we chose to specifically focus on mystery websites, which are becoming increasingly popular. The term mystery websites, as used here, refers to websites that intentionally do not provide consumers with complete information about the product being sold, such as Woot.com, and Kidrobot.com. The website may provide clues, but an explicit statement of what the product is never appears. We chose to start here because these types of sites use marketing campaigns that are almost exclusively based on mystery and thus rely on curiosity to drive behavior.

## STUDY 1

118 participants were exposed to a mystery product website. Participants then rated their current mood and were also asked several opinion and decision making questions about the website. The mood items were then factor analyzed and simultaneously entered into a multiple regression equation predicting the product perception outcomes. Results revealed participants experienced more curiosity ( $M=2.83$ ) than encouragement ( $M=1.65$ ),  $p<.01$ , distress ( $M=1.33$ ),  $p<.01$ , and discontent ( $M=1.12$ ),  $p<.01$ . Furthermore, curiosity significantly predicted positive word-of-mouth about the product,  $b=.549$ ,  $t(116)=5.961$ ,  $p<.01$ ; positive word-of-mouth about the website,  $b=.558$ ,  $t(116)=6.053$ ,  $p<.01$ ; purchase intentions,  $b=.580$ ,  $t(116)=6.817$ ,  $p<.01$ ; and satisfaction,  $b=.532$ ,  $t(116)=5.926$ ,  $p<.01$ .

## STUDY 2

Knowing that curiosity can lead to various positive outcomes including purchase intentions and satisfaction begs the question, “can we induce or increase curiosity?” Based on Lowenstein’s information-gap theory we developed Study 2 to examine whether manipulating the information gap of our participants will lead to different levels of curiosity. Forty-nine participants were randomly assigned to one of two conditions: a minimal-information condition and a moderate-information condition. Participants were then exposed to a mystery box website that corresponded to the condition they were in. After exposure, participants rated their current mood and then answered opinion and decision making questions about the website. Participants experienced higher levels of curiosity in the moderate-information condition ( $M=3.25$ ) than they did in the no-information condition ( $M=2.55$ ) suggesting that moderate information creates an information gap that appears to be solvable. Furthermore, curiosity was positive correlated with positive word-of-mouth about the product, positive word-of-mouth about the website, purchase intentions, and satisfaction.

### STUDY 3

What is still unknown is whether the use of mystery is more successful than the standard practice of full disclosure such as Amazon.com’s practice of offering very detailed descriptions and product reviews. Study 3 tests this question. Seventy-seven participants were randomly assigned to one of two conditions: a mystery website or full information website to buy a t-shirt. After exposure, participants rated their current mood and then answered opinion and decision making questions about the website.

As compared to the full-information condition, the moderate information condition showed a significant and positive effect on curiosity ( $\beta=1.71$ ,  $p<.01$ ). The information condition also had a significant positive effect on satisfaction ( $\beta=.586$ ,  $p<.01$ ), word-of-mouth about the product ( $\beta=.603$ ,  $p=.018$ ) and word-of-mouth about the site ( $\beta=.732$ ,  $p<.01$ ). Next, we examined the indirect effect of our mediator (i.e., curiosity) on our dependent variables. The indirect effect of curiosity was significant for word-of-mouth about the product (point estimate for indirect effect = .410; 95 percent CI=.02, .97) and word-of-mouth about the site (point estimate for indirect effect = .530; 95 percent CI=.128, 1.11), but not for satisfaction (point estimate for indirect effect = .065; 95 percent CI=-.275, .435). Finally, when controlling for curiosity, the significant direct effects of condition on our dependent variables became nonsignificant for product word-of-mouth ( $\beta=.193$ ,  $p=.546$ ) and website word-of-mouth ( $\beta=.202$ ,  $p=.605$ ), indicating that curiosity fully mediated those relationships.

### DISCUSSION

In this research, we contributed to the literature in the following ways: First, we showed the impact of curiosity on consumer behavior. Second, we demonstrated how to induce curiosity. Third, our research showed that consumer curiosity mediates the relationship between the amount of mystery (i.e., the amount of information provided) and behavior.

## REFERENCES

Loewenstein, G. (1994), "The psychology of curiosity: A review and reinterpretation," *Psychological Bulletin*, 116(1), 75-98

## THE STRUCTURE AND EVOLUTION OF THE SERVICE-DOMINANT LOGIC

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### EXTENDED ABSTRACT

Since the emergence of the service-dominant logic (SDL), service scholars hold intuitive beliefs about its structure and evolution. Service scholars build subjectively an understanding of the main research fronts within the SDL. Scholars subjectively decide on the most suitable theoretical perspectives and research approaches to drive the SDL evolution, but an objective analysis on the structure and evolution of the SDL as a research domain is still missing.

Our study applies bibliometric methods to the SDL literature. We retrieved articles from the Scopus research database with titles, abstracts, or keywords containing the expressions related to the “service-dominant logic”. We also tracked the citations of the seminal article of Vargo and Lusch. Our inquiry leads to 1023 articles somehow related to the SDL. These articles have been analyzed by three bibliometric methods. First, we provide a descriptive analysis of the published contributions. We distinguish into the two phases: (i) early and emerging (2004-2007) and (ii) latter and more mature research activities (2008-2011). For both phases, we assessed the research indicators (e.g., ratio between empirical and conceptual papers, nature of empirical evidences, theoretical perspectives, and so on). Second, we use a citation analysis to assess the importance of the research contributions. Third, a cocitation analysis explores the structure of the SDL contributions.

Our descriptive and citation analysis suggest that the SDL articles should be distinguished into the intellectual core driving the theoretical development of the domain (184 articles) and a huge periphery of articles, which refers to the SDL, but has a very limited contribution to the evolution of the research domain (839 articles). While the existence of a huge periphery is not surprising, the lack of empirical contributions in both the early and latter phase of the SDL evolution indicates an important research gap. Among the 184 articles, empirical-driven articles are marginalized. Even theoretical papers lack of empirical evidences describing the application of SDL to real world phenomena. Furthermore, the theoretical perspectives seem to have shifted towards a new theory of markets with the corresponding integration of socially constructed institutions, core management theories such as organizational change, resource-based view, learning processes, or dynamic capabilities are still missing in the SDL context. But understanding what learning processes within a company are, for example, necessary to apply the SDL would be essential to understand the managerial relevance.

The co-citation analysis suggests that SDL is now following three main research directions. First, there is a core of articles deepening the theoretical foundation of the SDL. Second, value co-creation has become the most dynamic research direction with the SDL contributions, which seems to have overcome the lack of empirical-driven contributions to the SDL. Third, service systems and value networks is another vital research direction. However, within this research direction, researchers just started to adjust their research methods to the challenges of understanding complex service systems. Our objective, bibliometric analysis of the SDL provides not only insights into previous SDL evolution and its current structure. It also defines future research opportunities.

# THE TRUTH OF SERVICE INNOVATION IN MANUFACTURING FIRMS: SAME, SAME, BUT DIFFERENT

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## EXTENDED ABSTRACT

Many manufacturing firms introduce service innovations to satisfy their customers and grow their business (Gebauer et al., 2011; Bettencourt and Brown, 2013). Based on the identification of value in use, manufacturing firms should develop services where new value constellations are used for service provision (Kowalkowski et al., 2013).

Previous research has identified a number of truths about how new product development (NPD) (Griffin, 1997) and new service development (NSD) (Menor and Roth, 2008; Edvardsson et al., 2013) should be done – but do the truths for NPD and NSD hold for service innovation in manufacturing firms?

A series of empirical studies were performed on manufacturing firms to investigate what truths about NPD and NSD that holds for service innovation in manufacturing firms. First a survey was performed of 300 development projects in manufacturing firms, see e.g. Edvardsson et al. (2013). This was followed by several case studies of manufacturing firms such as SKF, Ericsson, Volvo Trucks and Volvo Busses, see e.g. Gremyr et al. (2010). The truths that we put of for a test concern how to organize, how to use resources, the role of the NSD strategy and how to use the development process.

## PROPOSITIONS – SAME, SAME, BUT DIFFERENT

From our studies we can provide some basic statistics of an average NSD-project in a manufacturing firm. The size of a development team is about five key personnel over a period of nine months that it takes to complete a NSD project. About 50% of manufacturing firms do not have a NSD strategy and resources are scarce. Based on this situation, we present a number of propositions that tell the truth about service innovation in manufacturing firms.

Proposition 1: Service Innovations do not appear in a NSD process, they are co-created in a customer relationship.

Research suggests that NSD does not start from scratch and end with a successful service. There are numerous cases on technology-based service innovations with an origin in the NSD process that fail in the basics, i.e. to co-create value-in-use in the business of customers.

Proposition 2: Integration of NPD and NSD leads to NSD following a goods-logic.

Manufacturing firms add activities and evaluation criteria related to services in the gates of the NPD process as a way to integrate product and service development. This often treats NSD in a stepmotherly fashion where the service is developed in conditions suitable for development of goods. As a consequence, the service is developed as a skunk work, only using the integrated development process to pass the gates and play the political game.

Proposition 3: Formalization of the NSD process has no effect on the outcome of the NSD process.

The use of a formalized development process has an effect for service firms, while no such effect can be found for manufacturing firms. The stage-gate models were initially developed for NPD projects, and they are not well suited to small-scale NSD projects. This gives us two scenarios (1) that the formalized service development process is not used in practice; or (2) that it is used and hampers the performance of NSD. Both scenarios explain why a formalized service development process does not improve NSD performance.

Proposition 4: Resources in the fuzzy front-end of the NSD process has a minor effect on the outcome – allocate resources to the later phases of the NSD process.

A truth in NPD is that resources should be moved from the early towards the later phases of the development process. But, both service developers and customers have problems in understanding value-in-use during the early phases of the development process. It seems as the intangibility of services and solutions need to be resolved before value-in-use can be understood and customers will be able to co-create for others.

Proposition 5: Many services are left “hanging” and fail since market introduction and service operations have been forgotten.

NSD projects are performed as a strategic activity with short development times which gives problems in implementation in local service organizations and sales of new services. An ideal service is developed that does not fit the actual setup of local service providers. Kowalkowski and Kindström (2009) try to resolve this issue by extending the NSD process into service provision. The suggested NSD process consists of four stages: market sensing, development, sales, and delivery. Extending the responsibility of the NSD team is an important step, but requires organizational and development process changes.

## CONCLUSION

The present study shows that NSD in manufacturing firms is treated in a step motherly manner. There is often no special unit for NSD, a service development strategy is missing and the NSD process is either not used or has been adopted from the NPD process. The possibility to succeed

with service innovations in manufacturing firms in the long run under such conditions seem impossible or even as a certain road to failure.

## REFERENCES

- Bettencourt, L. and Brown, S. (2013), "From goods to great: Service innovation in a product-dominant firm", *Business Horizons*, in press, <http://dx.doi.org/10.1016/j.bushor.2013.01.008>
- Edvardsson, B., Meiren, T., Schäfer, A. and Witell, L. (2013), "Having a strategy for new service development – does it really matter? ", *Journal of Service Management*, 24 (1) 25 – 44
- Gebauer, H., Gustafsson, A., and Witell, L. (2011), "Competitive advantage through service differentiation by manufacturing companies", *Journal of Business Research*, 64 (12) 1270–1280.
- Gremyr, I., Löfberg, N., and Witell, L. (2010), "Service innovations in manufacturing firms", *Managing Service Quality*, 20 (2) 161-175
- Griffin, A. (1997), "PDMA Research on New Product Development Practices: Updating Trends and Benchmarking Best Practices", *Journal of Product and Innovation Management*, 14 (6) 429-58.
- Kindström, D. and Kowalkowski, C. (2009) "Development of industrial service offerings: a process framework", *Journal of Service Management*, 20 (2) 156 – 172.
- Kowalkowski, C., Witell, L. and Gustafsson, A. (2013), "Any way goes: Identifying value constellations for service infusion in SMEs", *Industrial Marketing Management*, 42 (1) 18–30.
- Menor, L. and Roth, V.A. (2008), "New Service Development Competence and Performance: An Empirical Investigation in Retail Banking", *Production and Operations Management*, 17 (3), 267–284.

# THE VAE-CHAIN OF NON-OWNERSHIP SERVICE

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## ABSTRACT

An increasing number of customers use non-ownership services to gain access to a wide variety of products. However, ownership is still valued. The question arises which products customers prefer in non-ownership services and which consumer goods they rather access through ownership. With deducing the VAE-chain the authors intend to identify and classify the consumer goods customers favor in non-ownership services.

## INTRODUCTION

To gain access to products, a growing number of consumers choose nonownership services, such as renting and sharing (Moeller and Wittkowski 2010), e.g., rentcell.com or cort.com. Two reasons explain this trend: First, with non-ownership modes of consumption the burdens associated with ownership (e.g., maintenance and repair) rest with the supplier. Second, especially consumers in developed countries focus more on experiencing a product than on utility (Silverstein and Fiske 2005). The rising demand of non-ownership is an attractive opportunity for retailers and manufacturers. However, the question remains, which types of goods customers favor for non-ownership and which goods they prefer to own.

## MODEL AND METHOD

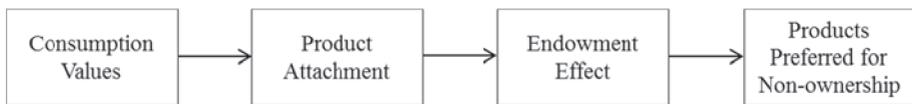
Non-ownership service allow customers to purchase the access to a good, a physical facility, a network, labor or space for a defined period of time against a payment while the legal ownership rests with the provider (Lovelock and Gummesson 2004). This study focuses on such services, in which goods are core of the offering. We conducted a preliminary study which goods are suitable for non-ownership. Respondents were presented with a list of products and were asked which of these products they would access though non-ownership. The findings show that the feasibility of products for non-ownership services varies substantially (e.g. 82 per cent would access skis via non-ownership service, 34 per cent musical instruments and 8 per cent mattresses).

The Endowment Effect forms the theoretical foundation of our model (Kahneman and Tversky 1991) aiming to explain above differences. Experiments have shown that people's willingness to accept an amount for an object they own significantly exceed their willingness to pay for a similar object (e.g., Kahneman, Knetsch and Thaler 1990). This edowmer effect results from loss aversion. In non-ownership services, customer only gain temporary access to a good. These transactions thus usually imply the loss of the good. It was found that people are even more sensitive to parting with an endowment, when they feel emotionally attached to this good (Kogut and Kogut 2011). Product attachment arises over time (Kleine and Baker 2004). Thus, we propose that the customers only use non-

ownership services to access goods to which they are unlikely to become emotionally attached. We assume that the product attachment leading to the endowment effect acts as a barrier towards demanding non-ownership.

Product attachment evolves from the values customers receive from a product. We identify six types of value: functional, social, emotional, epistemic, conditional and distance value (Hayduk 1978; Sheth, Newman and Gross 1991). Functional value derives from the perceived utility of a good. Social value is related to allowing customers to be associated with a social group. Emotional value refers to the benefit through product use that satisfies curiosity and novelty. Conditional value arises as the results of the specific situation or set of circumstances. Further, we propose that customers also derive so called distance value from products that allow them to maximize the distance to others. Hayduk (1978, p. 118) defines a person's personal space as "the area individual humans actively maintain around themselves." Each of these values (V) is assumed to influence the degree of attachment (A) and thus the endowment effect (E) and with this the preference for non-ownership. Thus, we contend a VAE-chain of non-ownership services. Our research aims to investigate this VAE-chain (mediation effects) as well as the direct effects.

Figure 1: The VAE-Chain



In addition to the theoretical foundation, we plan to gain further insights by conducting expert interviews with users and providers of non-ownership services to build an empirical foundation of the above described mode. We aim to test this model with survey data. To gain a comprehensive understanding of the products preferred in non-ownership transactions and to avoid common method bias, we will measure the dependent variable using the Mokken Scale Analysis. It is a scaling technique utilizing ordinal data, which takes the entire set of stimuli together can be transformed into interval data (Mokken 1971). Our VAE-chain will thus be analyzed using Structural Equation Modeling.

## IMPLICATIONS AND CONCLUSION

Our study will have useful implications for practice and theory. Identifying the types of products customers prefer for non-ownership is essential information for goods providers considering non ownership services as well as existing providers. We contribute to theory by extending the literature on non-ownership and by introducing a new type of measurement scale (Mokken Scale Analysis) to service marketing.

## REFERENCES

- Dhar, R., and Wertenbroch, K. (2000), „Consumer Choice between Hedonic and Utilitarian”, *Goods. Journal of Marketing Research*, 37 1 60-71
- Diener, E., and Lucas, R. E. (2000), „Subjective emotional well-being”, M. Lewis and J.M. Haviland-Jones, eds. *Handbook of emotions* (2nd ed.). New York The Guilford Press, 325–337
- Hayduk, L. A. (1978), “Personal Space: An Evaluative and Orienting Overview”, *Psychological Bulletin*, 85 117-134
- Kahneman, D., Knetsch, J. L., and Thaler, R. H. (1990), „Experimental Tests of the Endowment Effect and the Coase Theorem”, *Journal of Political Economy*, 98 December 1325–1348
- Kleine, S. S., and Baker, S. M. (2004), „An Integrative Review of Material Possession Attachment”, *Academy of Marketing Science Review*, 1 1-35
- Kogut, T., and Kogut E. (2011), “Possession Attachment: Individual Differences in the Endowment Effect”, *Journal of Behavioral Decision Making*, 24 377-393
- Lovelock, C. H., and Gummesson, E. (2004), “Whither Services Marketing? In Search of a New Paradigm and Fresh Perspectives”, *Journal of Service Research*, 7 1 20-41
- Moeller, S., and Wittkowski, K. (2010), “The burdens of ownership: reasons for preferring renting”, *Managing Service Quality*, 20 2 176-191
- Mokken, R. J. (1971), *A theory and procedure of scale analysis*, The Hague: Mouton
- Sheth, J.N., Newman, B.I., and Gross, B.L. (1991), “Why We Buy What We Buy: A Theory of Consumption Values”, *Journal of Business Research*, 22 159-170
- Silverstein, M. J., and Fiske, N. (2005), *Trading Up: Why Consumers Want New Luxury Goods – and How Companies Create Them*, (2nd ed.). New York: Penguin Group
- Tversky, A., and Kahneman, D. (1991), “Loss Aversion in Riskless Choice: A Reference-Dependent Model”, *The Quarterly Journal of Economics*, 106 1039-1061

# TO AUTOMATE OR NOT TO AUTOMATE. IS THAT THE QUESTION?

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## ABSTRACT

Managers fear that not only are consumers less satisfied and loyal when they use automated interfaces but also satisfaction may not necessarily result in higher loyalty. The underlying assumption is that technology is responsible for differences in evaluative processes used to judge electronically provided services, which affects customer satisfaction and loyalty and the link between the two. We argue against this assumption and compare a model of satisfaction, commitment, and loyalty across three different interface types- human, automated phone, and Internet- to find support for our hypotheses. A cross-sectional study conducted in the banking industry shows that technology does not alter established relationships between satisfaction, commitment, and loyalty.

## INTRODUCTION

Automation reduces labor costs when it substitutes interpersonal customer service (e.g. Federal Express's package tracking on Internet), increases customer satisfaction when it provides service when and where customers want (e.g. online banking that gives 24-hour service) and creates new channels to reach customer segments that were not previously accessible (e.g. Amazon's ability to sell to worldwide markets through its website). Despite these advantages of automation, managers fear satisfaction may not necessarily result in higher loyalty (Shankar, Smith, & Rangaswamy, 2003). The predominant underlying assumption in this reasoning is that technology is responsible for differences in evaluative processes used to judge electronically provided services, which consequently affects customer satisfaction and loyalty (Liljander, Gillberg, Gummerus, & Riel, 2006; Meuter, Ostrom, Roundtree, & Bitner, 2000). On the other hand, there is empirical evidence that it is the type of service, rather than technology itself, that affects the bonds between customer and service provider (Selnes & Hansen, 2001).

A logical way to resolve the issue would be to compare the relationship between satisfaction and loyalty across different interfaces but few studies do this. We bridge this gap by comparing an established model of the relationship between customer satisfaction and loyalty (Johnson, Gustafsson, Andreassen, Lervik, & Cha, 2001) across three different interface types- personal, automated phone, and Internet- to demonstrate that technology does not alter existing relationships between satisfaction and loyalty or their mediators, affective and calculative commitment. While the original Johnson et al (1999) model also includes corporate image, price and quality, we do not include these in developing our research propositions as we are only interested in the relational aspects of loyalty.

## EFFECT OF AUTOMATION ON SATISFACTION

Satisfaction depends on expectations about service performance (Oliver, 1977). Since automated services have existed for decades, consumers know what to expect from services that involve a mechanical or an electronic interface. Hence, neither satisfaction derived from automated services, nor ensuing loyalty, should be sensitive to interface type.

One can argue that because consumers play a major role to co-create services (Vargo & Lusch, 2004), consumers' ability to operate the technology interface and their attitude towards technology could affect evaluation of services. A positive attitude towards technology use has been shown to have a favorable impact on evaluations (Dabholkar, 1996) whereas anxiety towards use an unfavorable one (Meuter, Ostrom, Bitner, & Roundtree, 2003). However, this affect has also been shown to be moderated by consumer and situational characteristics (Dabholkar & Bagozzi, 2002) indicating that differences in evaluation may not necessarily stem from the technology itself. A later study (Simon & Usunier, 2007) indeed shows that technology has no affect in case of complicated services (like financial transactions) but does so in simple ones (like cash withdrawal). Results from another study also show that technology positively affects social bonds between service provider and customer in case of high-complexity services but negatively in low-complexity ones (Selnes & Hansen, 2001). If it is the nature of service rather than technology that impacts evaluations, then one should expect drivers of loyalty to be same regardless of interface type. Technology may mean that customer and firm conduct their business in slightly different ways, but features that represent quality service remain the same (Bitner, 2001).

Measures of customer satisfaction typically require customers to evaluate their overall experience with the service provider. Because of ongoing nature of membership services, consumers accumulate perceptions of (previous) encounters that eventually determine overall evaluations. Such a retrospective evaluation would be cumulative and include encounters with service provider through different interfaces.

Technology, therefore, is likely to be an integrative part of customers' evaluation and have no moderating effect on customer loyalty (as literature assumes).

Thus, we expect:

Research proposition 1: Constructs determining loyalty, namely satisfaction, affective and calculative commitment, remain the same when customers use their preferred interface and whether personal or a technological interface provides the service.

Research proposition 2: Relationship between these constructs remains unchanged regardless of whether personal or a technological interface provides service.

## EFFECT OF AUTOMATION ON COMMITMENT

Affectively motivated commitment is a desire to continue the relationship because of attachment and positive feelings for the partner. Calculative commitment, on the other hand, is a need to maintain the relationship due to perceived costs associated with its termination, or perceived switching costs associated with leaving. It is assumed that automation results in consumers having less affective commitment to the service provider because of the impersonal nature of interface and more calculative commitment because of an economic-based cold assessment of alternatives.

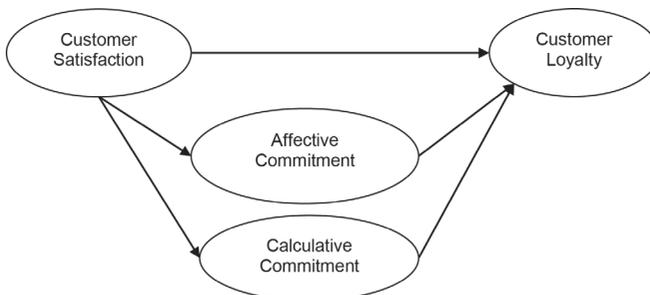
The calculative behavior expected of consumers who use automated channels may be relevant for transactional services but does not necessarily hold true for those in membership ones. A membership relationship with the service provider lessens consumers' anxiety towards technology use because consumers know that the service provider will support them in technology trial process and use. This reduces the predictive role of ability to use technology on satisfaction and loyalty. Moreover, these consumers have a better offer only a mouse-click away and yet continue the relationship.

When service is offered through multiple interface and technology is one of multiple attributes of a relationship, same processes are used to evaluate an automated service experience as are for interpersonal ones because automation is not necessarily at cost of personal service- it is adopted by consumers who see its added value while having the option of receiving certain services via a personal interface. Technology is seen as yet another way of interacting with the service provider. Because it is a choice customers have made for perceived benefits, affective commitment is still going to be the stronger driver of loyalty (as compared to calculative commitment). Therefore we expect,

Research proposition 3: In membership services, affective commitment is the stronger driver of loyalty in comparison to calculative commitment regardless of interface. That is, affective commitment plays a more important role than calculative commitment in building loyalty in ongoing relationships.

Figure 1: Drivers of loyalty

Adapted from Johnson, Gustafsson, Andreassen, Lervik and Cha (2001)



## DATA COLLECTION, ANALYSIS AND DISCUSSION

Banking is the chosen context for two reasons. Banking services are one of the most technologically advanced today where customers can choose to interact with the bank through multiple interfaces. This allows comparison and contrast of proposed relationships in different settings. In addition, membership relationship with the service provider is an important basis for our research propositions and banking services offer such a relationship.

Eight hundred (800) randomly selected respondents were interviewed by telephone in 15-minutes long sessions out of which 743 were retained for analysis based on their preferred mode of interacting with their bank. Three hundred and fifty eight (358) respondents mostly visit the bank when using the bank's services, 151 preferred automated phone banking and 234 Internet banking. These different interface groups have the names Visit, Telebank, and Netbank respectively hereafter.

The model

The different interface samples (Visit, Telebank, and Netbank) were unequal in size so equally-sized groups are created with a random sample of 151 (smallest of the three groups) from the two larger groups. Generating equal-sized groups for analyses ensures unambiguous interpretations of results as some goodness- of- fit statistics in Lisrel are sensitive to differences in sample size. Recommended tests of equality for variance-covariance matrices, factor patterns, factor loadings and error terms on factor loadings (Bollen, 1989) analyze the measurement model. Table 1 summarizes these results.

Table 1: Testing the measurement model

	<i>X<sup>2</sup> value</i>	<i>Df</i>	<i>RMSEA</i>	<i>CAIC</i>	<i>CFI</i>	<i>NNFI</i>
Equality of variance-covariance matrix	1540.724	702	.075	3785.594	.97	.95
Equal loadings	2067.278	872	.083	3068.086	.95	.95
Equal loadings, construct variances	2089.254	886	.083	2993.619	.95	.95
Equal loadings, construct variances and factor covariance	2199.532	924	.084	2822.404	.95	.95

### Chi-square differences tests

<i>Equivalency tests</i>	<i>Model comparison</i>	$\Delta X^2$	$\Delta Df$	<i>p-value</i>	<i>Conclusion</i>
Equality of covariance	N/A	N/A	N/A	N/A	N/A
Equality of metrics	2-1	-526.554	170	0.000	Supported
Metric and factor equivalency	3-2	-21.96	14	0.079440	Supported
Metric, factor variance and error variance equivalency	4-3	-110.278	38	0.000	Not supported

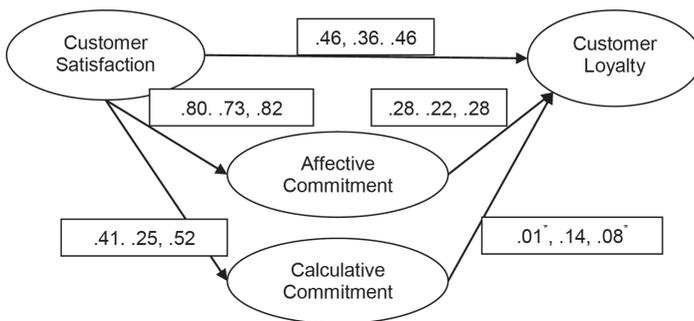
The RMSEA (.075), CFI (.95) and NNFI (.97) are all within acceptable range

and are all at the higher or lower end of the recommended range. This, combined with a relatively high CAIC (3785.594), indicates that variance-covariance matrix may be different across the three groups. Test for other invariances show that CAIC improves and supports loadings, metric and factor variance equivalency. Even though there are signs of some perceptual differences across groups, we conclude that the measurement model holds across three groups: the constructs determining loyalty are the same for all interface types.

Not only do same constructs— satisfaction, affective and calculative commitment, and loyalty – remain relevant regardless of interface type but expected relationships between these constructs remain unchanged. It confirms that technology is not a moderator of loyalty as assumed by previous researchers and that technology does not affect the model of loyalty and its drivers.

*Relationship between satisfaction-loyalty and commitment-loyalty*

Tests of causal model group by group show satisfaction is a strong driver of affective commitment across all interface types but has a somewhat weaker impact on calculative commitment. However, satisfaction’s impact on loyalty increases across interfaces: stronger for Telebank and Netbank than for Visit. Results for affective and calculative commitment as drivers of loyalty are mixed. While affective commitment is a stronger driver of loyalty than calculative commitment for all interfaces, calculative commitment is not a significant driver of loyalty for Visit or Netbank. Thus we conclude that relationships between constructs in the model of loyalty remain unchanged for the most part across interface types and that affective commitment is the stronger driver of loyalty in comparison with calculative commitment. Figure 2 presents the results visually.



\*not significant at p<.05

Although relationships between constructs explaining loyalty are same for the three interfaces, the strength of these relationships is different for each interface. Interestingly, the relationship is weakest in Visit group, the group that this model is developed for in the first place.

The direction of relationship between affective and calculative commitment and loyalty is again same for the three interface types but relationship

between affective commitment and loyalty is stronger than relationship between calculative commitment and loyalty for all groups. The literature proposes that consumers who receive service through a technology interface are going to be more calculative in their relationships with the service provider because of apparently lower switching costs however, our results show that affective commitment still plays a more important role in building loyalty than calculative commitment for all three interface types.

The impact of calculative commitment on loyalty is significant for only respondents that prefer to use automated services (Telebank and Netbank customers). Though this supports expectations of such customers being more calculative than the ones who receive service personally (Shankar, et al., 2003), affective commitment is still the stronger driver of their loyalty. Customers that use technology may be more calculative when compared with customers who prefer interpersonal services but the impact of calculative commitment on their loyalty is still relatively small.

## CONTRIBUTIONS

The study's first and foremost contribution is identifying the role of technology in established relationships between satisfaction, commitment, and loyalty, something that has remained unclear in the literature so far. Our results show that technology does not alter the relationship, at least not in ongoing membership relationships. Second, the study demonstrates that affective commitment is still the stronger driver of loyalty, regardless of interface type. This does not mean that calculative commitment is unimportant in determining loyalty. It is found to be a relevant driver of loyalty for customers who prefer automated services (Telebank and Netbank) but this impact is rather small. The third contribution of the study is establishing the external validity of constructs in the modeled relationships by replicating it across three interface types. A close replication of a prior study or its deliberate modification are useful for testing phenomena in multiple settings but replication is also necessary for advancing knowledge in a discipline. The above-mentioned contributions lose significance if the conclusions are not based on sound analyses, which is a major strength of the study.

## LIMITATIONS AND FUTURE RESEARCH

Despite the encouraging results, we need care to broadly generalize the findings. Consumers' usage of multi-channels varies greatly by product category (Konus, Verhoef, & Neslin, 2008) so the choice of retail banking as a setting puts two boundary conditions on the results: the results are relevant and limited to ongoing membership relationships and are specific to retail banking. The operationalization of constructs in our study is primarily driven by the goal of testing established relationships which meant we use same measures as Johnson et al. Calculative commitment performs with mixed results in the model in its relationship with loyalty and is the only construct with average variance extracted below the recommended .50. Though this is similar to what earlier research documents, it is still a cause for concern. The construct needs to be developed and tested further to ensure the modeled relationships' robustness.

Services offered through multiple channels are typically not used exclusively from one interface. Our method of grouping subjects based on their most preferred interface for receiving services thus, does not take into account how a particular customer divides his/her usage among different interface types. Future studies should use this as a covariate in the relationship.

#### MANAGERIAL IMPLICATION: TO AUTOMATE OR NOT TO AUTOMATE?

The present study shows that technology does not alter the relationship between loyalty and its drivers in ongoing membership relationships. Introducing technology gradually in such relationships, increases customers' technology readiness and reduces or removes any associated perceived risk. In fact, technology is a relationship facilitator that can be strategically used to foster commitment through satisfying services. Managers should perhaps not contemplate whether or not to automate services but rather which services to automate, to what extent, and how to integrate automated services with those provided through other interfaces.

#### REFERENCES

- Bitner, M. J. (2001). Self-Service Technologies: What Do Customer's Expect? *Marketing Management*, 10, 10-11.
- Bollen, K. A. (1989). *Structural Equations with Latent Variables*. New York, NY: John Wiley & Sons.
- Dabholkar, P. A. (1996). Consumer Evaluations of New Technology-Based Self-Service Options: An Investigation of Alternative Models of Service Quality. *International Journal of Service Research in Marketing*, 13, 29-51.
- Dabholkar, P. A., & Bagozzi, R. P. (2002). An Attitudinal Model of Technology-Based Self-Service: Moderating Effects of Consumer Traits and Situational Factors. *Journal of the Academy of Marketing Science*, 30, 184-201.
- Johnson, M. D., Gustafsson, A., Andreassen, T. W., Lervik, L., & Cha, J. (2001). The Evolution and Future of National Customer Satisfaction Indices. *Journal of Economic Psychology*, 22, 217-245.
- Konuş, U., Verhoef, P. C., & Neslin, S. A. (2008). Multichannel Shopper Segments and Their Covariates. *Journal of Retailing*, 84, 398-413.
- Liljander, V., Gillberg, F., Gummerus, J., & Riel, A. v. (2006). Technology readiness and the evaluation and adoption of self-service technologies. *Journal of Retailing and Consumer Services*, 13, 177-191.
- Meuter, M. L., Ostrom, A. L., Bitner, M. J., & Roundtree, R. (2003). The Influence of Technology Anxiety on Consumer Use and Experiences with Self-Service Technologies. *Journal of Business Research*, 56, 899-906.

Meuter, M. L., Ostrom, A. L., Roundtree, R. I., & Bitner, M. J. (2000). Self-Service Technologies: Understanding Customer Satisfaction with Technology-Based Service Encounters. *Journal of Marketing*, 64, 50-64.

Oliver, R. L. (1977). Effect of Expectation and Disconfirmation on Postexposure Product Evaluations: An Alternative Interpretation. *Journal of Applied Psychology*, 62, 480-486.

Selnes, F., & Hansen, H. (2001). The Potential Hazard of Self-Service in Developing Customer Loyalty. *Journal of Service Research*, 4, 79-90.

Shankar, V., Smith, A. K., & Rangaswamy, A. (2003). Customer Satisfaction and Loyalty in Online and Offline Environments. *International Journal of Research in Marketing*, 20, 153-175.

Simon, F., & Usunier, J.-C. (2007). Cognitive, demographic, and situational determinants of service customer preference for personnel-in-contact over self-service technology. *International Journal of Research in Marketing*, 24, 163-173.

Vargo, S. L., & Lusch, R. F. (2004). Evolving to a New Dominant Logic for Marketing. *Journal of Marketing*, 68, 1-17.

## TO CO-PRODUCE OR NOT? THE CASE OF TECHNOLOGY-ENABLED SERVICES

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Half way through the on-line booking procedure, Ruth realized that the system had stopped responding. Beyond being frustrated, she was negotiating whether to complain or to get involved in solving the problem.

### ABSTRACT

Value co-production frameworks are increasingly relevant for understanding the management and organizational practices that are used to create new business opportunities (Ramirez, 1999). Such frameworks are emerging from the changing view of consumers as creative actors in a value-creating process, rather than as passive responders. The four terms that the literature uses to capture the changing role of consumers are prosumption, servuction, co-production, and co-creation (Toffler, 1980; Vargo and Lusch, 2004; Prahalad and Ramaswamy, 2004; Ramirez, 1999; Langeard and Eiglier, 1987). The underlying logic is that customers co-create for their own value enhancement and consumption (Xie et al., 2007) and that firms, by employing user-friendly technology, may gain a cost reduction by involving customers in the value co-creation process (Bendapudi and Nealy 2003).

The role of customers as co-producers has attracted growing interest since the emergence of standardized, inexpensive technology, and communication networks (Yadav and Varadarajan, 2005). The Internet enables companies to communicate directly with most, if not all of their customers, which has enabled greater customization and co-production. Value co-production now takes many forms, as companies continuously introduce new means with which to include their customers in the value production process. Embedded in the co-production logic is an assumption that co-production occurs during all steps of the production, delivery, and consumption processes, even in service recovery.

While a growing body of research has built on co-production (see, for example, Lusch, Brown and Brunswick, 1992; Xie, Bagozzi and Troye, 2008; Payne, Storbacka and Frow, 2008; Moeller, 2008), surprisingly few researchers have challenged the idea from service dominant logic (Vargo and Lusch 2004) that customers are always willing and able to co-produce value. A noteworthy exception is Bendapudi and Leone's (2003) investigation of the psychological implications of customer participation in co-production, which challenged the assumed positive association between self-service technologies and value co-production. Bendapudi and Leone argue that customers who participate in value co-production tend to have a self-serving bias, but also that this tendency is reduced when customers

have a choice whether to participate. In order for self-service technologies to contribute positively to value co-production, companies should provide customers with a choice between using a self-service alternative or for example a staffed counter.

The present study tests the positive association between Prahalad's (2004) five elements of value co-production, that is customer engagement, self-service, customer involvement, problem solving, and co-design, and the positive association between value co-production and behavioral intention. We offer two main contributions for managers. First, the study shows that customers are willing to co-produce in all aspects of an online service, except for problem solving in service recovery, but some aspects are more attractive than others. Second, the findings substantiate Prahalad's (2004) assumption that value co-production is a multi-faceted construct with implications for customers' use of technology and service innovation.

# TOWARDS BUILDING SERVICE LOGIC FOR OUTCOME BASED CONTRACTS

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## ABSTRACT

More and more outsourcing contracts are moving towards outcome-based and the golden era of activity-based models is coming to an end. Outcome based contracts are not yet fully understood. Neither IT outsourcing theories nor service dominant logic fully account for outcome-based contracts (OBC). This paper discusses service logic for outcome-based contracts. It proposes five aspects to understand outcome based contracts, which are- outcome based contracts as closed loop control process, mutual involvement of client and service provider, framework for contextual requirements for value co-creation, unambiguous outcome definition by the client, and executional regime for outcome based contracts.

## INTRODUCTION

From resource based contracts to strategic partnership based contracts there exists an entire spectrum of contracts that service providers and service seekers (clients) can choose from. Outcome-based contracts end golden era of IT firms (Bakshi, 2012). Outcome-based contracts are so called because in these contracts payments are contingent on performance such as improving overall sales, working capital reduction, bottom line improvement and others. Outcome-based and fixed price contracts are paradigm shift for IT companies whose main business is to execute outsourced contract. These companies were blooming on resource-based contracts based on effort and man hours supplied rather than being responsible for deliverables, results or outcome. This is why resource- based models are referred to as staff augmentation model or Time and Materials model.

Outcome-based contracts are not fully understood yet. Ng and Briscoe (2012) observe that outcome based contracts differ from traditional service provisioning models in three ways. First, service provider and service seeker both ensure that they are aligned towards the incentive of the outcome. This automatically constrains opportunistic behaviour in the engagement and forges shared goals. One implication of this is operational and business metrics must be aligned to produce the desired outcome.

Second, the service provider is the primary risk owner of the outcome and the service seeker is secondary risk owner. In this sense, outcome-based contract is better than fixed price contracts, where service provider is the sole owner of the risk, but risk ownership nonetheless tilts towards service provider. This is the reason the shift to outcome-based contracts has increased revenue risks for IT firms who provide IT outsourcing services (Bakshi, 2012). However, taking the larger share of risk and responsibility provides service provider opportunity to integrate resources for value creation and value realisation by the customer (Madhok & Tallman, 1998).

The third change is essentially a corollary of the second as the service provider can fully master this capability in the long run and increase its market share by taking up more such contracts.

IT outsourcing theories (Gottschalk and Solli-Sæther, 2006) outline the reasons why a service seeker would outsource a part of or entire IT function to one or more service providers. IT outsourcing theories also outline a set of critical success factors to evaluate an outsourcing service engagement (Gottschalk and Solli-Sæther, 2005). The critical success factors are derived from the IT outsourcing theories. These theories do not define a distinct framework for outcome-based contracts. However, author believes that in any such framework the role and contribution of contractual theory, partnership and alliance theory, relational exchange theory, social exchange theory, agency theory and stakeholder theory must be appreciated and accounted for. Grönroos (2011) feels some of the tenets of service dominant logic do not fully support value co-creation, which is considered to be central to outcome-based contracts. In her blog on, value creating service systems, Ng (2012) shares the following insights on outcome based contracts.

- Value co-creation is central to outcome-based contracts.
- There is a difference between complicated and complex systems and the system of achieving outcome is complex.
- Outcome-based contracts are not 'solutioning' systems.
- Outcome-based contracts need to absorb more contextual variety than 'solutioning', which is based on reductionist engineering system approach.

## THE SERVICE LOGIC FOR OUTCOME BASED CONTRACT

We develop the service logic for outcome based contract in the following section and briefly describe the proposed logic.

### Outcome based contracts as closed loop control processes

Outcome-based contracts cannot be designed as an open loop system. Making it an open loop feed forward system would require that all conditions associated with the outcome are known a priori. And, that is not possible even though desirable. Open loop systems are unable to cope with unexpected and unforeseen change in the environment or in the context (ITIL, 2007). Open loop systems cannot be debugged on the fly and therefore it cannot handle exception. In outcome-based contract the client needs to bring in his / her contextual resources to participate in the process of value co-creation (Ng, 2012). However, the client does not have full control over his context as it may change dynamically. Author has tried and proposes using system dynamics modelling and simulation approach (Sterman, 2001) to model outcome-based contract as closed loop feedback system, which can be monitored and controlled through policy interventions.

## Comprehensive mutual involvement of client and service provider

Figure 1 shows a typical heat map used to assess mutual involvement of client and service provider in a given engagement across different levels. The levels correspond to 5 subsystems of Viable System Model (VSM) (Beer, 1979, 1981, 1985). This template is used in author's organization designed by the author. The colour coding is as follows. Red denotes the given function in the engagement is fully decided by the client and service provider has no say in it. Amber denotes mutual involvement of both client and service provider while green denotes service provider is fully responsible for the function i.e. full autonomy has been given to the service provider with respect to that function.

Therefore the heat map is a measure of mutual involvement of client and service provider in a task in a given service engagement. In outcome-based contract the heat map will not contain any Red cells. It will only have amber and green cells. Ideally, mutual involvement will be more at higher level functions at system 3, 4 and 5 levels compared to system 1 (operations) and system 2 coordination of operations in VSM terminology. However, this is not to say that there will be no involvement of client at operational level. Usually, service providers are given more say at operational level and less and less say at meta-system level i.e. system 3-4-5 combined in VSM terminology.

It is critical to remember that no two customer situations are alike. Therefore, service provider must understand each unique customer situation and bring the capabilities of service provider to meet customer needs.

Figure 1: Mutual involvement heat map

Functions	Attribute	Engagement 1	Engagement 2	Engagement 3
<b>System 5: Policy function</b>	Goal definition	Red	Red	Red
	Accountability	Red	Red	Red
	Policy making	Red	Red	Red
	Prioritization	Red	Yellow	Red
<b>System 4: Intelligence function</b>	Planning & Strategy	Red	Yellow	Red
	Visibility into future business requirement	Red	Yellow	Red
	Visibility into work pipeline	Red	Yellow	Yellow
	Understanding of future Technology / Tools requirements	Green	Green	Yellow
<b>System 3: Communication and Control</b>	Resource Levelling	Yellow	Yellow	Green
	Resource allocation flexibility	Yellow	Yellow	Green
	Succession planning	Yellow	Green	Green
	Task allocation	Yellow	Green	Green
	Performance Management	Yellow	Yellow	Red
	Monitoring & Control (Including Rules for Interfacing and Communication)	Yellow	Green	Red
<b>System 2: Coordination (Knowledge Management &amp; PMO functions)</b>	Depth of functional knowledge	Yellow	Green	Yellow
	Depth of technical knowledge	Green	Green	Yellow
	SME / BA availability	Green	Green	Yellow
	Training & Human resource development	Green	Green	Green
	Standardization	Green	Green	Green
<b>System 1: Operations &amp; Production</b>	Business Requirements Analysis	Green	Green	Green
	Technical Architecture & Design	Green	Green	Green
	SDLC Processes Execution	Green	Green	Green
	Change Management	Green	Green	Green
	Infrastructure Management	Green	Green	Green

SME: Subject Matter Expert; BA: Business Analyst, PMO: Project management Office

Framework for articulating contextual requirements for value co-creation

If a tree falls in a forest and there is no one around will it make a sound? The answer is 'No'. Vibration, of course, will be generated, but you need auditory capabilities to sense the 'sound'. This emphasizes the importance of an 'observer' to sense an 'event'. Likewise, understanding contextual resources that service receiver must bring in for value co-creation is an important, but tricky task. Value co-creation by service receiver and service provider in an outcome-based contract requires that service receiver brings in its contextual resources (Ng, 2012). Value proposition must be matched by the contextual resources. Proposed value is realized only when contextual resources are supplied by the service receiver. In terms of principle of requisite variety following can be stated. Variety of contextual resources ≥ Variety of value proposition

The greater the variety of contextual resource the better value is realized. The number of application in a smart phone will create value only when the user has the ability to exploit them (Ng, 2012). However, it is NOT an either you have it or you don't situation. Value creation increases with the user's learning curve. Table 1 shows different types of contextual inputs / resources client needs to bring in for value co-creation.

Table 1: Types of contextual resources

Resources	Explanation
Ability / Skill	Ability / skill is required to use the system and its features.
Space /Material	Home theatre will require acoustically designed space.
Time	There may be latency or period of maturity involved before something can be used. Waiting is an investment.
Surroundings	Value is realized in the surrounding / environment of service receiver.
Aesthetics	To appreciate subtleties of features of a product/service/work of art.
System	To appreciate a good music system an equally good speaker- another system is needed.

Service receiver (client) must define outcome it seeks unambiguously. In outcome-based contracts outcome must be defined. Contextual resources necessary for realization of outcomes must also be specified. Value lies in the eyes of the service seeker- the client who pays for the service at the point of consumption. The onus of defining outcome and the context lies on the client. Unless expected outcome is defined unambiguously agreement between client and service provider cannot be obtained. Outcome definition and context is input to service design. Normally, outcomes are defined under three broad categories-efficiency, enhancements and transformation. However, service provider may add other outcomes and categories.

#### Executorial regime for outcome based contracts

Researchers always capture static properties while discussion service contracts. It is quite strange given the fact that a service provisioning contract is a static structure and its dynamic property is manifested only when it is executed under a project or a program. A well-defined service contract does

not mean anything until it is executed. While a comprehensive executional regime is beyond the scope of this paper the following definitive statement can be made with respect to executing outcome-based contracts.

When we move from resource-based models to outcome-based models we need more relationship maturity, better alignment between operational and business metrics, better stakeholders management, better governance and performance management, service levels and key performance indicators (KPIs).

## CONCLUSION

This paper has endeavoured to put forward a set of service logic for outcome-based contracts (OBC). OBC is still unfolding and it is yet to be fully understood- either at theory level or at practice level. OBC should be modelled as a closed loop feedback system so that it can be simulated in time and policy interventions could be made to ensure expected outcomes are realized. System dynamics modelling and simulation is an appropriate approach for modelling outcome-based contracts. The paper emphasizes the mutual involvement of client and service provider in the engagement at all levels- policy level as well as operations level. A framework is proposed for contextual requirements for value co-creation that specifies what contextual resources client must bring to realize a particular value. Client as service receiver must define the outcome it is seeking and must also specify the contextual resources required to realize the outcome. Finally, the paper discusses executional regime for outcome based contracts, which have been hitherto ignored. What this paper has discussed is not even the tip of the iceberg with respect to a comprehensive understanding of outcome-based contracts. Outsourcing contracts constitute a research area of their own by virtue of their variety, complexity and domain knowledge. Besides, these service provisioning models are not in isolation of each other. There exists a continuum on which all service provisioning models- from resourced-based models to strategic partnership lie. This entails a comprehensive research approach.

## REFERENCES

- Bakshi, S. (2012), Outcome-based contracts end golden era of IT firms, an article in Financial Chronicle published on, February 1, 2012.
- Beer, S. (1979), *The Heart of Enterprise*, Chichester: Wiley.
- Beer, S. (1981), *Brain of the Firm*, Chichester: Wiley.
- Beer, S. (1985), *Diagnosing the System for Organisations*, Chichester: Wiley.
- Grönroos, C. (2011), *Value co-creation in service logic: A critical analysis*, Marketing theory, forthcoming.
- ITIL (2007), *ITIL V3 Service Strategy*, pp. 22-23

Madhok, A., & Tallman, S.B. (1998), Resources, transactions, and rents: Managing value through interfirm collaborative relationships, *Organization Sciences*, 9(3), 326-339.

Ng I. (2012), Value Creating Service Systems, a blog posted at <http://value-basedservicesystem.blogspot.in/2012/01/outcome-based-contracts-are-not-same-as.html>

Ng I. and Briscoe, G. (2012), Value, Variety and Viability: New Business Models for Co-Creation in Outcome-based Contracts, WMG Service Systems Research Group Working Paper Series, Issue Number: 6/12.

Petter Gottschalk, Hans Solli-Sæther, (2005), Critical success factors from IT outsourcing theories: an empirical study, *Industrial Management & Data Systems*, Vol. 105 Iss: 6 pp. 685 - 702

Petter Gottschalk, Hans Solli-Sæther, (2006). *Managing Successful IT Outsourcing Relationships*, IRM Press, Hershey • London • Melbourne • Singapore

Sterman, J. D. (2001), *System dynamics modelling: Tools for learning in a complex world*, *California management review* 43 (1): 8 25

# **TRANSFORMATIVE SERVICE RESEARCH: A GOING BETWEEN CULTURAL WORLDS FRAMEWORK**

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## **ABSTRACT**

Transformative Service Research (TSR) is service research that centers on creating uplifting changes and improvements in the well-being of individuals (consumers and employees), communities and ecosystems. We develop a framework for approaching TSR by viewing services as social structures, services as systems, and services as cultural worlds. With ethnographic support, we find that stress develops as a result of differences between collective culture and service culture worlds. The development of a truly co-created third space, with its own set of meanings, value priorities, power dynamics, and theories-in-use, may influence well-being outcomes for service providers and customers.

## **ABSTRACT**

In this research, we define and develop a framework for Transformative Service Research (TSR) and discuss the findings of an extensive ethnographic study that served as the impetus for our conceptualization. TSR is defined as “the integration of consumer and service research that centers on creating uplifting changes and improvements in the well-being of individuals (consumers and employees), communities and the ecosystem” (Anderson et al. forthcoming). Important outcome variables in the TSR domain include equity, access, participation, voice, decreased disparities, happiness, and well-being.

We have developed a framework for approaching TSR as a result of a four-year ethnographic study of health disparities in a predominantly indigenous and Mexican-American community where 25% of all residents have been diagnosed with diabetes. The researchers engaged in multiple research methods, including: photographs/collages, observations, participation, interviews, feedback meetings, and community action research (Ozanne and Anderson 2010). From this ethnography emerged new methods for approaching TSR in the form of three expanded, disruptive views of services: 1) services as social structures, 2) services as systems, and 3) services as cultural worlds.

Services are so pervasive that they structure and create the world within which consumers live. The first view, parallel to Edvardsson, Tronvoli, and Gruber (2011), recognizes services as social structures that set parameters for which options and opportunities are available to consumers. This approach illuminates the consumers’ perceptions of agency and power, specifically consumer access, voice, and vulnerability (defining vulnerability, in part, as a lack of control). Terms such as “compliance” and “best practices” specifically illustrate the structural aspect of services in health care. Service design and service co-creation are theoretical elements considered within this view.

The second view of services is that of systems. A service does not stand alone, but is intertwined with other service systems (Spohrer et al. 2007). The dominant TSR issue highlighted by this view is the difficulty of changing and the difficulty in making service improvements. For example, although there is increased advocacy and movement toward a more patient-centric approach in health care, many health services are stymied in their innovation efforts by other service systems, such as insurance services. Although we have seen some recent changes, insurance has traditionally paid providers on the number of patients seen rather than any health and well-being outcomes of these patients. Theoretical elements of services to be considered within this view include service innovation, service delivery networks, and dynamic systems modeling.

The third view is that of services as cultural worlds. This view recognizes that services constitute cultural worlds and that service consumers themselves come from influential collective cultural worlds (e.g., ethnic, age-defined, occupational, geographic). Going between worlds occurs when service consumers and service providers both move between their own collective culture and a service culture (Hall and Lamont 2009). Important elements in this view include power, the closeness of the two worlds, social justice issues, health disparities, and cultural literacy. Critical issues illuminated by this view include the stress and wear and tear of going between cultural worlds, which may manifest in hopelessness, opting out of the service, and embodiment. Service elements that address this view include developing minimally-invasive services, exploring cultural boundary-spanners, truly co-creating a cultural third space, training service providers, and building cultural literacy within the service and collective culture.

To further address this final view using ethnographic findings, we query why, despite numerous services and programs meant to decrease the rate of diabetes in this culture/community and a substantial knowledge regarding diabetic health, is the rate not going down? We identified threemain well-being themes for when consumers go between ethnic and service worlds: 1) different meanings, 2) different priorities, and 3) stress and embodiment.

**Different meanings:** In the service world, diabetes is defined as abnormal glucose metabolism and treatment plans are usually related to diet, exercise, and pharmaceutical solutions. However in the collective community, diabetes is defined in the language of hopelessness: “it is just in our blood”, “sweet blood”, and “I know I’ll eventually get diabetes...” There are also different meanings for food. In the service world, food is seen as a treatment plan for the disease, whereas in the community, food is all about culture, tradition, and families. In fact, one informant said her in-laws used to visit regularly when she served traditional food but they stopped coming over once she started cooking healthier.

**Different priorities:** While an individual’s health is of utmost importance in a health care setting, in the community, family comes first, followed by traditions/culture, community, resources, and finally an individual’s health. So while service providers prescribe certain health regimes, they often did not align with community value priorities. One practitioner said, “They don’t

want to change. They're very proud and they stick with their heritage and they stick with their food.”

**Stress and Embodiment:** When an individual goes between cultural and service worlds and experiences different meanings, different priorities of values, and perhaps marginalization, the resulting disharmony can lead to massive wear and tear and stress. Navigating between two cultural worlds can lead to the embodiment of stress and increased health disparities (Krieger 2005).

In order to negotiate these differences in meanings, differences in priorities, and stress and embodiment caused by the gap between the collective culture and the service culture, we conceptualize the development of a third space. A third space is a flexible and socially constructed cultural system that develops a co-created set of meanings, values, power dynamics, and theories-in-use (Soja 1996). The structure and composition of this third space is determined by the balance of power between the collective and service cultures, the closeness between the cultures, and the assertive versus passive participation styles of the consumer and provider within the service interaction. The development of this cultural third space has implications for well-being, including the reduction of stress, wear and tear, and embodiment and the improvement in customer engagement, participation, and actual health outcomes.

## REFERENCES

Anderson, L., Ostrom, A.L., Corus, C., Fisk, R.P., Gallan, A.S., Giraldo, M., Mende, M., Mulder, M., Rayburn, S.W., Rosenbaum, M.S., Shirahada, K., and Williams, J.D. (forthcoming), “Transformative service research: An agenda for the future,” *Journal of Business Research*.

Edvardsson, B., Tronvoll, B., and Gruber, T (2011), “Expanding understanding of service exchange and value co-creation: a social construction approach,” *Journal of the Academy of Marketing Science*, 39, 327–339.

Hall, P.A. and Lamont, M. (2009), *Successful Societies: How Institutions and Culture Affect Health*, New York: Cambridge University Press.

Krieger, N. (2005), “Embodiment: a Conceptual Glossary for Epidemiology,” *Journal of Epidemiology & Community Health*, 59, 350–355.

Ozanne, J.L. and Anderson, L. (2010), “Community Action Research,” *Journal of Public Policy & Marketing*, 29 (1), 123-137.

Soja, E.W. (1996), *Thirdspace: Journeys to Los Angeles and Other Realand- Imagined Places*, Malden, MA: Blackwell Publishing.

Spoehrer, J., Maglio, P.P., Bailey, J., and Gruhl, D. (2007), “Steps Toward a Science of Service Systems,” *Computer*, 71-77.

# TURNING THE CUSTOMER SATISFACTION NUMBERS INTO ACTION: THE KEY TO SUCCEED WITH CUSTOMER SATISFACTION PROGRAMS

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## ABSTRACT

Customer satisfaction is a key performance indicator in many service firms and its relationship to loyalty, retention and profitability is well established. But, little is known about how service firms design, collect, analyse, make decisions and improve offerings based on customer satisfaction data. Through a cross-sectional survey of 311 service firms and a multiple case study (qualitative and quantitative) of 20 organizational units of one service firm the present research identifies what phases constitutes customer orientation, the relationships between the different phases of customer orientation and customer satisfaction, and the activities in the different phases that result in higher customer satisfaction.

## INTRODUCTION

*“Even if we think that the customer is wrong in his opinion it is still the customers experience, if it is negative that is the way it is.”*

Slogans like “The customer comes first” or “The customer is king” are quite common in business terminology. Customers are, however, the primary source of positive cash flow and the strategic objective of firms is to improve customer satisfaction (Fornell et al. 1996). Customer orientation becomes the key to more satisfied customers and a source of sustainable competitive advantage (Kumar et al. 2011). Customer orientation is “a set of beliefs that put the customer’s interest first” (Deshpande et al. 1993, p. 27). It implies having an attractive service offering and taking the customers’ opinion into consideration (Wilson et al. 2008), to make customers satisfied and to avoid to “overshot” customers (Lukas et al. 2013). Interestingly, customer orientation per se, especially for service firms is not that well researched (Brady and Cronin 2001).

A key in customer orientation is designing, collecting, analysing, making decisions and improve offerings based on customer satisfaction data (Johnson 1998; Morgan et al. 2005). A higher concentration of customers increases the incentives to monitor the customer satisfaction numbers of individual customers (Li and Calantone, 1998). Surprisingly, research is scarce on how service firms collect and use relevant customer satisfaction information (Morgan et al. 2005). This leads us to ask the questions: What do service firms have to gain by being customer oriented? Why has previous research not been able to relate customer orientation to performance? Could it be that there are more shades to customer orientation and that its effects are more differentiated than first assumed?

The purpose of this research is to contribute to the literature on customer orientation by developing and empirically testing a model that attempts to explain what constitutes customer orientation and, in turn, influences customer satisfaction. We have three research objectives: (a) to understand what phases constitutes customer orientation, (b) to investigate the relationships between the different phases of customer orientation and customer satisfaction, and (c) to examine what activities in the different phases of customer orientation that will result in higher customer satisfaction. The research is based on a cross-sectional survey of 320 service firms and a multiple case study of 20 organizational units of Telia, a service firm in the Telecom industry in Europe.

## THEORETICAL FRAMEWORK

Customer orientation can be viewed as the creation of an understanding of customers to be able to continuously create superior value for them (Narver and Slater 1990; Ruekert 1992). Ruekert (1992) defines customer orientation as the “degree to which the organisation obtains and uses information from customers, develops a strategy which will meet customer needs, and implements that strategy by being responsive to customers’ needs and wants”.

Three main bodies of literature on customer orientation indicate the importance of firms’ usage of customer satisfaction information and provide a theoretical foundation linking it to business performance. These bodies of literature are market orientation, the use of market research and customer orientation. First, an extensive stream of research concerns market orientation (Narver and Slater, 1990; Kohli and Jaworski, 1990) where two alternative interpretations of the concept have dominated the literature. In particular, Kohli and Jaworski (1990) adopt a process-based view where market orientation ranges from organization-wide generation of customer information, through dissemination of the intelligence across departments, to organization-wide responsiveness to it. Second, an alternative research stream concerns the use of market research (Deshpande and Zaltman 1984) and has its focus on how market researchers and managers perceive, use and evaluate market research.

The interaction between market researchers and managers as well as the actual report are two areas that determine the use of market research in decision making.

The third research stream comes from the research on customer satisfaction. Although the majority of research concerns customer satisfaction per se and its measurements, a few publications also concern how customer satisfaction data should be used. Both Johnson (1998) and Morgan et al. (2005) provide alternative models for understanding the process of measuring and using customer satisfaction. A customer orientation emphasizes an organization’s ability to attain customer information, analyze it to set priorities for improvement, and use these priorities to drive product and process change (Johnson, 1998; Johnson and Gustafsson, 2000).

## Phases of customer orientation

Morgan et al. (2005) looked at the process of customer information usage (CSI) and defined it as consisting of four different sub-processes; (1) customer satisfaction data scanning, (2) customer satisfaction data analysis, (3) customer satisfaction information dissemination and (4) customer satisfaction information utilization. Such process models of customer orientation are important, because customer orientation become more concrete by establishing the different phases or steps needed for its adoption.

Johnson (1998) suggests a phase model for customer orientation since it provides the concrete processes and action steps necessary for an organization to become customer oriented. The model consists of four phases; (1) customer strategy and focus, (2) customer satisfaction measurement, (3) analysis and priority setting and (4) implementation. In the first phase an organization revisits the role of customers and customer orientation in its overall strategy. One important issue is to consider how customer satisfaction as a business goal should be positioned in relation to other goals such as innovativeness, effectiveness and financial results. In the second phase, emphasis is put on identifying the lens of the customer. This lens is then used to decide on what customer information to collect, how to design the survey and perform data collection. In the third phase, the information gathered from customers has to be analysed and prioritised. Decisions are made on what specific improvement areas to consider and how they are to be treated within the organization. The fourth phase concerns the implementation of improvements in products and services.

The relationship between customer orientation and customer satisfaction  
The empirical research by Narver and Slater (1990) provide evidence that there is a positive relationship between market orientation and profitability. One limitation of their research is that it uses subjective measures of profitability. Using subjective measures of performance, Jaworski and Kohli (1993) find that market orientation is related to business performance. But when market share is used as a measure of performance, no relationship can be found. Noble et al. (2002) investigate the relationship between the individual components of market orientation and organizational performance. Their findings showed that competitor orientation is significantly related to performance while there is moderate support for a relationship between interfunctional co-ordination and performance and no support for a relationship between customer orientation and performance. In addition, their investigation shows a significant relationship between selling orientation and performance. Noble and his co-authors conclude that there actually are not that many studies providing evidence for the direct effect of customer orientation on organizational performance.

Based on the results of previous research, we suggest that in order to identify the effects of customer orientation on customer satisfaction, we have to break down the customer orientation construct into different phases. But, first we have to identify the number of phases that build up

customer orientation. Furthermore, we should expect that the phases of customer orientation are interdependent, and that each phase may not have a significant, independent effect on customer satisfaction. A service firm should be able to influence the customers directly when they make their service promises through external marketing in the strategy and focus phase and in the implementation phase when they act upon customer satisfaction information.

## RESEARCH METHODS

Our empirical study can be described as a sequential study combining quantitative and qualitative research (Tashakkori & Teddlie 1998). First a cross-sectional survey was performed followed by a multiple case study at Telia, the largest Swedish provider of telecom services (Eisenhardt and Graebner 2007). The cross-sectional survey was performed to investigate the first two research questions, i.e. to understand what phases constitutes customer orientation and to investigate the relationships between the different phases of customer orientation and customer satisfaction. The multiple case study was performed to further test the relationships between the different phases of customer orientation and customer satisfaction and to examine what activities in the different phases of customer orientation that result in higher customer satisfaction.

### A cross-sectional survey of service firms

Surveys were sent to marketing managers of European firms selected from an externally purchased database. Managers were asked to participate if they worked in an organization that used different market research techniques to measure customer satisfaction. Reminders were mailed to non-respondents one and two weeks after the initial mailing, which yielded 311 questionnaires and a response rate of 34 per cent.

### Measures and descriptive statistics

The study measured customer orientation through the use of customer satisfaction surveys, ranging from strategy, design of a study, analysis, decision making and implementation. Based on previous research, we identified items to measure the activities throughout the process of customer orientation from strategy to implementation. Altogether 30 items were developed and tested in a small-scale survey, where the authors received feedback from managers. This led to further development of the items and a survey with 25 items measuring customer orientation on a Likert scale (1 to 10).

Business performance was measured through two different constructs, customer satisfaction and financial results. Customer satisfaction was measured through two items, i.e. level of customer satisfaction and customer complaints and two items measured financial results, i.e. level of market share and financial performance (Jaworski and Kohli, 1993). These two constructs use subjective performance measures, which is a common practice in research into firms and business units (Powell, 1995).

Qualitative and quantitative studies of customer orientation at Telia  
While a cross-sectional study of customer orientation and its influence on customer satisfaction can provide an overall structure, an in-depth study at a single firm can identify specific activities in a certain phase that contribute to customer satisfaction. In addition, such a study can use direct customer satisfaction measures to investigate the relationship between customer orientation and customer satisfaction.

## Sample

The interview study covered five business units at Telia. The guiding principle of the selection was to have a sample within Telia that reflected a variation in usage of Telia's customer satisfaction measurement system. The four people in the management team of each business unit were interviewed using a semi-structured interview guide. Altogether 20 interviews were performed, recorded and transcribed.

At the time of the study Telia had geographically divided the Swedish market into 27 business units. A questionnaire was sent to each manager in the management team of the 27 business units. Altogether we received 44 responses, i.e. a response rate of 46%. In order to investigate the relationship between customer orientation and customer satisfaction, data on customer satisfaction was gathered through Telia's customer satisfaction measurement system.

## Measures and data collection

Customer orientation is operationalized as a construct on the usage of Telia's customer satisfaction measurement system. The construct for of customer orientation used a subset of the 25 items used in the cross-sectional survey. The data on customer satisfaction for each business unit consists of about 100 telephone interviews with customer conducted each month. The specific item used to measure customer satisfaction is "What is your overall satisfaction with the performance of Telia during the whole service experience" using a scale from 1 (very bad performance) to 5 (very good performance).

## ANALYSIS AND RESULTS

### Results from the cross-sectional survey

The sample was split in two subsets, where the first sample was used to identify the number of phases of customer orientation and the second sample was used to validate the identified structure and investigate the relationship to customer satisfaction and financial results.

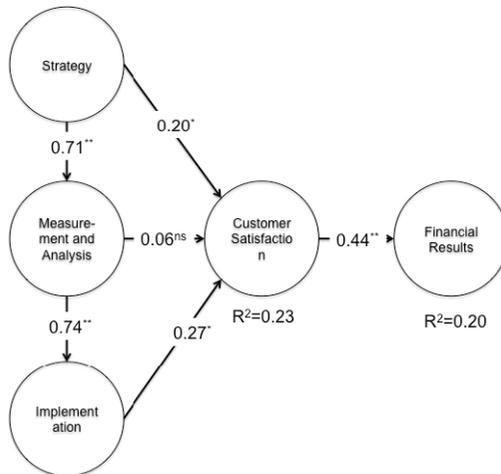
First, an explorative factor analysis was used on the first subset of the sample (n=220) to identify the number of phases of customer orientation. After eliminating factors that did not load high on any factor, we identified 16 items that loaded on three phases of customer orientation. Based on a content analysis of the items, the three factors were identified as strategy, measurement and analysis and implementation. This operationalization

shows more similarities with Johnson (1998) than Morgan et al. (2005).

Second, the suggested model of three interrelated phases of customer orientation was operationalized with the second subset of the sample (n=91) using partial least squares (PLS). PLS was used to estimate the model of the relationship between the phases of customer orientation, customer satisfaction and financial results (Wold 1982; Fornell and Cha 1994). The indices for reliability and validity of the estimated model are over the acceptable values (Fornell and Cha 1994), but are left out due to page constraints.

The measurement model of customer orientation, customer satisfaction and financial results explains 23% and 20% of the variation in the result variables and shows that the different phases of customer orientation are interrelated and that the strategy (b=0.20) and implementation (b=0.27) phases influence customer satisfaction, while the effect of measurement and analysis on customer satisfaction was mediated through the implementation phase.

Figure 1: A model of the relationship between customer orientation, customer satisfaction and financial results. (n=91, \*\* p<0.01; \* p<0.05, ns p>0.05).



The qualitative and quantitative study of customer orientation at Telia Based on the quantitative study, we identified strategy, measurement and analysis and implementation as three interrelated phases of customer orientation. In the following, we will elaborate on the true effect of customer orientation on customer satisfaction and what activities in the different phases of customer orientation that resulted in higher customer satisfaction.

First, the empirical investigation of the relationship between customer orientation and customer satisfaction was performed in 19 business units at Telia. First, a subset of seven items building up the customer orientation, were used in a factor analysis (n=42) where one factor was extracted that

encompassed 62% of the variation with a Cronbach's alpha of 0,87. Due to the small number of business units (n=19), we used a GLM-model to investigate the direct effect of customer orientation on customer satisfaction (F=7,8, p<0.01). The effect is positive (b=2.2; p<0.01) and R<sup>2</sup>=0.27, i.e. customer orientation has a direct effect on customer satisfaction.

Second, an analysis was done by going through different activities in the different phases and identifies differences between high end (n=11) and low end (n=9) users of Telias customer satisfaction measurement system. Two independent judges were used and their evaluations of each activity only differed in 6% of the cases. In order to support the content analysis we also used individual messaging in the form of separate quotes, see Appendix 1. Due to the page limit we will only elaborate on the main results here.

Very few of the managers use customer satisfaction data to make decisions. Based on our results it may be interpreted that managers do not feel that the customer satisfaction surveys contain the right information (stated by 8 respondents). The main use for high-end users of customer satisfaction data is to perform benchmarking with other units, followed by identifying improvement areas. Judging by interview transcripts, it looks like managers use customer satisfaction data for validation, i.e. to understand how customers view the world.

*"It is incredibly important to have knowledge about the customers' opinions, it is impossible to guide the organization otherwise"*

In order to use customer satisfaction data, the managers have to trust the quality of the data. It is, however, difficult to find positive views about the customer satisfaction measurement system, even from managers that are high-end users. There seem to be a general lack of trust of the data and they generally feel that improvements in the service operations are not reflected in customer satisfaction.

*"I think that it is better using averages because it gives a more correct picture. I do not know for sure, but I think that there are many organizational units that have a lot of fours. But they end up at the lower end of the scale."*

The lack of trust seems to be rooted in observations of the relationship between the service and customer satisfaction. Consequently, customer satisfaction data alone, may be too narrow and inadequate to understand the complete view of the relationship between the service and customer satisfaction.

*"I have seen that the units with the best results on the item repairs carried out the same day did not have the best results in the barometer. The results have not always made sense."*

Regarding measurement and analysis, managers repeated that the customer satisfaction measurement system seems to be inadequate as a foundation for priority setting when developing the implementation plan to improve customer satisfaction and financial results. To some extent,

managers suggest to complement quantitative analyses with qualitative market research.

*"The results are too general and not deep enough. I have difficulty determining what to work on based on the results."*

*"Recently we have been given access to the customers' open answers and that is a real hit. These can really be used to start a dialog."*

Regarding implementation, improvements based on customer satisfaction data did not always show in the next measurements of customer satisfaction, thus creating confusion about the effect of improvements. In addition, managers are confused about the relationship between customer satisfaction and financial results.

*"We had problem with our results for customer support. We were the worst unit in the country. We did some changes and became the best unit in the country. This did not show in the barometer."*

## CONCLUSIONS

The research contributes to three bodies of literature, i.e. market orientation (Narver and Slater 1990), use of market research (Deshpande and Zaltman 1984) and customer orientation (Johnson 1998). First, the results suggested that customer orientation consists of three phases i.e. (1) strategy, (2) measurement and analysis, and (3) implementation. Our study provides evidence that there is a strong relationship between customer orientation and customer satisfaction and that implementation influences customer satisfaction the most. The fact that measurement and analysis does not have an impact directly on satisfaction does, however, not mean that managers should not give priority to this phase. But rather it means that the market researchers need to build trust for managers to use the reports on customer satisfaction to be able to influence customer satisfaction in the implementation phase.

## REFERENCES

Brady, M. K., and J. J. Cronin Jr. (2001), "Customer Orientation Effect on Customer Service Perceptions and Outcome Behaviors", *Journal of Service Research*, 3(3), 241-251.

Deshpande', R., and Zaltman, G. (1984), "Researcher and Manager Perceptions of Market Research", *Journal of Marketing Research*, 21(1), 32-38.

Deshpande', R., Farley, J., & Webster, F. (1993), "Corporate culture, customer orientation, and innovativeness in Japanese firms: A quadrad analysis", *Journal of Marketing*, 57(1), 23-27.

Eisenhardt, K.E. and Graebner, M.E. (2007), "Theory building from cases: Opportunities and challenges", *Academy of Management Journal*, 50(1), 25-32.

Fornell, C. and Cha, J. (1994), "Partial Least Squares." In *Advanced Methods of Marketing Research*, edited by R. P. Bagozzi, Blackwell, Cambridge, 52-78.

Fornell, C., Johnson, M. D., Anderson, E. W., Cha, J. and Everitt Bryant, B. (1996). "The American Customer Satisfaction Index: Nature, Purpose, and Findings," *Journal of Marketing*, 60(October), 7-18.

Jaworski, B. J and Kohli, A. K. (1993). "Market orientation: Antecedents and Consequences", *Journal of Marketing*, 57(3), 53-70.

Johnson, M. D. (1998). *Customer orientation and market action*. : Prentice Hall, Upper Saddle River, NJ.

Johnson, M. D. and Gustafsson, A. (2000). *Improving customer satisfaction, loyalty and profit: An integrated measurement and management system*, Jossey-Bass, San Francisco, CA

Kohli, A. K. and Jaworski, B. J. (1990). "Market orientation: the construct, research propositions, and managerial implications", *Journal of Marketing*, 54(2), 1-18.

Kumar, V., Jones, E., Venkatesan, R. and Leone, R. (2011). "Is Market Orientation a Source of Sustainable Competitive Advantage or Simply the Cost of Competing?", *Journal of Marketing*, 75(1), 16-30.

Li, T. and Calantone, R.J. "The Impact of Market Knowledge Competence on New Product Advantage: Conceptualization and Empirical Examination." *Journal of Marketing*, 62(4), 13-29.

Lukas, B. A., Whitwell, G. J. and Heide, J. (2013). "Why Do Customers Get More Than They Need? How Organizational Culture Shapes Product Capability Decisions.", *Journal of Marketing*, 77(1), 1-12.

Morgan, N. A., Anderson, E. W. and Mittal, V. (2005), "Understanding firms' customer satisfaction information usage," *Journal of Marketing*, vol. 69(3), 131-151.

Narver, J. C. and Slater, S. F. (1990). "The effect of a market orientation on business profitability", *Journal of Marketing*, 54(4), 20-35.

Noble, C. H., Sinha, R. K., and Kumar, A. (2002) *Market Orientation and Alternative Strategic Orientations: A Longitudinal Assessment of Performance Implications*, *Journal of Marketing*, 66(4), 25-39.

Powell, Thomas C. (1995), "Organizational Alignment as Competitive Advantage", *Strategic Management Journal*, 13(2), 119-134.

Ruekert, R., (1992), "Developing a market orientation: an organisational strategy perspective", *International Journal of Marketing*, 9, 225-245.

Tashakkori, A., and Teddlie, C. (1998). *Mixed Methodology*, SAGE Publications, London, UK.

Wilson, A., Zeithaml, V.A., Bitner, M.J. and Gremler, D.D. (2008). *Services Marketing: Integrating the Customer Focus Across the Firm*, 1sted., The McGraw-Hill Company, London, UK.

Wold, H. (1982). Systems under indirect observation using PLS. In *A second generation of multivariate analysis methods*, edited by C. Fornell Praeger, New York, NY.

Appendix 1: A comparison of low-end and high-end users of customer satisfaction data in Telia.

Activities of customer orientation	Low-end users			High-end users		
	-	0	+	-	0	+
<b>Strategy</b>						
Usage of customer satisfaction data	4	3	0	0	0	11
Customer satisfaction data is part of the decision making process	2	2	0	2	1	2
Customer satisfaction data are compared with other units	0	0	0	0	0	8
<b>Measurement and analysis</b>						
Ease of understanding the information in the barometer	1	0	2	3	0	1
Right measures for customer satisfaction and loyalty	2	0	0	0	0	3
Find explanations to changes in the barometer	3	0	2	6	1	2
Factors that create customer satisfaction are clearly defined	6	0	0	3	0	0
The importance of trends	0	0	2	0	0	5
The content is correct	5	0	0	1	3	4
More concrete information is demanded	1	0	4	1	1	6
The barometer is used to identify improvement areas	0	0	0	0	0	4
<b>Implementation</b>						
The results are always communicated throughout the organisation	1	0	0	0	0	4
All employees take part of the results	1	0	0	0	0	5
All employees receive a copy of the results	1	0	1	3	0	0

# UNDERSTANDING RESISTANCE TO ADOPT

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## INTRODUCTION

A recent survey by Boston Consulting Group<sup>1</sup> reports that innovation is high on CEOs' agenda: 26 percent of the respondents have innovation as top priority and 45 percent has it as top-three priority. Despite high attention from the C-suit, firms are not very successful in launching new products and services. In 2005 between 70 to 90 percent of US-fast moving consumer goods were withdrawn from the market one year after launch (Gourville 2006). This is not new. In the 1980s, the management consulting firm Booz, Allen and Hamilton (1982) reported very high rate of new product failures. The consistently low commercial success rate in the US is in keeping with the academic literature. Barczak, Abbie, Griffin, and Kahn (2009) in their review of the innovation literature from 1984 to 2004 concluded that while there has been an improvement in firms' internal processes pertaining to innovation, the commercialization success rate in 2004 was at the same low-level as in 1984: 1:10, i.e. nine out of ten innovations flop in the marketplace.

The motivation for our study is found in innovations' low commercial success rate and in Bagozzi and Lee's (1999) claim: "Very little research has addressed the decision processes consumers engage in with respect to adoption, and we lack a general framework for thinking about consumer information processing with regard to innovations." While the above critical question has been discussed conceptually in the fields of marketing, consumer psychology, and behavioral economics it has, to the best of our knowledge, never been tested empirically. Two dominant theoretical platforms prevail. From behavioral economics Kahneman and Tversky's (1979) Prospect theory is a significant contribution. From consumer psychology, two conceptual contributions are noteworthy: a) Bagozzi & Lee (1999) who developed a comprehensive model for consumer resistance to, and acceptance of innovations and b) contributions from attitude theory, specifically theory of planned behavior (for example Ajzen 1991). In our work, we integrate theory from different fields into one conceptual model for empirical testing.

## FUSTAINABLE LIFESTYLE

Measured by the amount of advertising focusing adopting a sustainable lifestyle, it is fair to say that the topic is in the vogue. For example, on June 19, 2012, Washington post ran two full page ads from two very different industrial groupings promoting a sustainable lifestyle. While Dairygood.org's<sup>2</sup> communicated "Sustainability is more than a trend, it's a way of life", America's dominant beverage companies (for example Coca Cola and Pepsi) communicated that they are delivering more choice, smaller portions, and fewer calories. Both organizations are communicating that they are innovating in accordance with a deeper consumer trend: sustainable lifestyle (Andreassen, Calabretta, and Olsen, under review). By lifestyle, we mean all the activities consumers do to promote a healthy living and to promote your individual well-being. This includes a way of life which involves having the right amount of food, drinking, and exercises so that consumers are in a state of physical, social and mental well/being, whilst having the ability to meet the demands of the environment without undue fatigue. But for consumers, who want to change their lifestyle accordingly, adopting a sustainable lifestyle will require changes or innovations in their current everyday life. For companies to succeed in assisting consumers to succeed (i.e. innovating new services and products), will require a deeper insight into consumers' adoption of new products and services and the tradeoffs they are making when trying to adopt a new sustainable lifestyle.

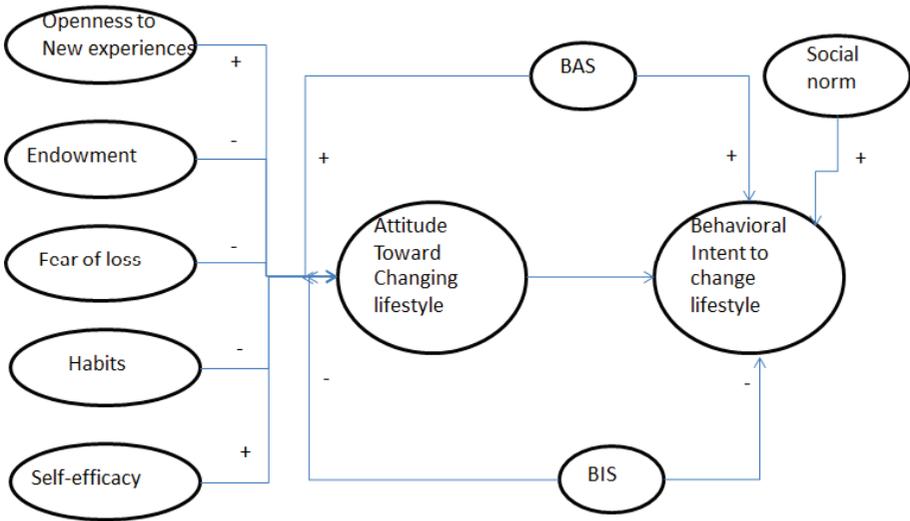
## THE CONCEPTUAL MODEL

Our conceptual model reflects an attitude toward adopting a new life style and the behavioral intent to do so. In Figure 1, we define behavioral intent to change lifestyle as the dependent variable. In the first part of the model, we learn from behavioral economics that there are three factors which will affect people's attitude toward adoption: fear of loss (Kahneman & Tversky 1979), "Endowment effect" (Thaler 1980). From Bagozzi and Lee (1999), we pick the two most dominant: habits, self-efficacy.

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<sup>1</sup> BCG Senior Executive Innovation Surveys 2010, 2009, 2008, 2007, 2006

Figure 1: Understanding resistance to adopt



In keeping with Prospect theory, we propose that fear of loss and endowment effect are negatively correlated with consumers' attitude toward changing behavior/lifestyle. In keeping with consumer behavior we propose that while openness to new experiences and self-efficacy are positively correlated, habits are negatively correlated with attitude toward changing lifestyle. A professional market research firm assisted us in providing a national sample of respondents.

## FINDINGS

There are four noticeable findings from our study: a) while fear of loss, endowment, and habits are inhibitors, openness to new experiences and self-efficacy are promoters to attitude toward a new lifestyle, b) self-efficacy seems to be the stronger antecedent to attitude, c) both attitude and social norm are antecedents to behavioral intent to adoption, and d) while the behavioral inhibition system (BIS) moderates self-efficacy, the behavioral approach system (BAS) moderates habits in impacting attitude toward adopting a new lifestyle.

Two stakeholder groups will benefit from our study and findings. Business managers will know more about consumer resistance to adopt innovations - something that will help them improve the probability of commercial success. Policymakers concerned about healthcare and environmental issues will learn about citizens' challenges pertaining to changing lifestyle and thus develop programs better assisting citizens in their endeavor to sustain a sustainable lifestyle.

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<sup>2</sup> Organizing US-dairy farm families who turn milk into products like for example cheese, yogurt, and dairy ingredients.

## REFERENCES

- Ajzen, I. (1991). The theory of planned behavior. *Organizational Behavior and Human Decision Processes*, 50, 179-211.
- Andreassen, Tor W., Giulia Calabretta, and Line L. Olsen: Deriving valuable innovations. Under review.
- Bagozzi, R. P. and K.-H. Lee, Eds. (1999). Consumer resistance to, and acceptance of, innovations. *Advances in consumer research*. Provo, UT, Association for consumer research.
- Barczak, G., Abbie Griffin and K. B. Kahn (2009). " PERSPECTIVE: Trends and Drivers of Success in NPD Practices: Results of the 2003 PDMA Best Practices Study." *Journal of Product Innovation Management* 26 (1): 3-23.
- Gourville, John T. (2006): Eager Sellers and Stony Buyers: Understanding the Psychology of New-Product Adoption", *Harvard Business Review*, June.
- Kahneman, D. and A. Tversky (1979). "Prospect Theory. An Analysis of Decision Under Risk." *Econometrica* 47: 263-291.
- Thaler, R. (1980). Toward a positive theory of consumer choice. *Journal of Economic Behavior and Organization*, 1, 39-60.

# UNDERSTANDING VALUE CO-CREATION IN COMPLEX SERVICES WITH MANY STAKEHOLDERS

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## ABSTRACT

This paper explores the concept of value co-creation in complex environments with many stakeholders. Through a qualitative study with 48 health care practitioners and citizens, this paper offers a better understanding of how individuals co-create value in a complex environment such as electronic health records (EHRs). The study results reveal that each stakeholder value creation depends on his/her own actions and on the actions of other stakeholders, in a complex set of interactions and interdependencies. These results highlight the need to expand beyond a dyadic view to a network view of value co-creation.

## INTRODUCTION

The evolution of service environments has led to the emergence of complex services systems with multiple stakeholders, where supplier networks interact with customer networks. Understanding how value is co-created through interactions among the different actors in these complex service systems requires a many-to-many perspective. From this perspective, the focus should be on the whole context of a complex world (Gummesson, 2006), taking into account that value co-creation is not only dependent on the interaction between the customer and the service provider, but also dependent on the interactions with multiple stakeholders. Customer value co-creation has been recently defined as “benefit realized from integration of resources through activities and interactions with collaborators in the customer’s service network” (McCoy- Kennedy et al., 2012). In complex service systems, such as electronic health records (EHRs), the distinction between service provider and customer becomes blurred, as citizens, doctors and nurses are both service providers and customers. The benefits each actor (such as a citizen) receives depends, not only on the EHR service provider, but also on the other actors such as doctors or nurses. Thus, value in the network is generated through complex dynamic exchanges between several stakeholders.

However despite thorough conceptualizations of value co-creation in the literature, empirical applications showing the relationship and interactions phenomena from a multiple stakeholder perspective are scarce. How customers engage in the co-creation of value still needs further research (Payne et al., 2008). This paper attempts to fill this gap through a qualitative study of EHRs involving 48 health care practitioners and citizens. This study provides an in-depth understanding on how value is co-created in a many-to-many service system, revealing the complex interconnections among stakeholders.

## LITERATURE REVIEW

A service system may be defined as an arrangement of resources that “includes people, organizations, shared information, and technology, all connected internally and externally to other service systems by value propositions” (Spohrer et al., 2007, Maglio et al., 2009). Electronic Health records (EHRs) fit this definition and its complexity makes it a rich empirical ground to study complex service systems. According to the International Organization for Standardization definition (ISO, 2004), an EHR is a repository of patient data in digital form, stored and exchanged securely, and accessible by multiple authorized users. It contains retrospective, concurrent, and prospective information and its primary purpose is to support continuing, efficient and quality integrated health (Hayrinena et al., 2008). However, the EHR only creates value through the services it provides to the different actors in the health care system. A service perspective enables a broader view of EHRs, not just as a repository, but as complex service system involving multiple stakeholders.

In healthcare, the role each actor plays may vary by being the client and service provider at the same time, which transforms the system into a complex reality of many to many relationships (Pinho et al., 2012). For example, when a doctor accesses an EHR during a patient consultation, he plays the role of EHR service customer at the beginning (when searching for patient historical clinical information), and plays the role of EHR service provider at the end of the consultation (when he provides the EHR service with the report of the consultation or information about drugs he prescribed to the patient).

Value creation is a process through which the user becomes or feels better off than before (Grönroos, 2008). The customer role in value creation is changing from a passive perspective to a more proactive participation (McCull-Kennedy et al., 2012, Payne et al., 2008). In S-D logic (Vargo and Lusch, 2008) value is co-created as actors interact to integrate resources. In this view “value is also always uniquely and phenomenologically determined by the beneficiary” (Vargo et al., 2008). So, value is co-created when resources are used. Also, companies can only create value propositions, which are dependent on input from customers (Vargo and Lusch, 2008). Thus, customer participation and experience with the service are crucial for value creation. However, customer experience should be viewed from a holistic approach and both relationships with customers and between customers should be considered (Verhoef et al., 2009). Value creation can go beyond the producer and customer system to a networked system that involves a firm, its customers, suppliers, employees, stockholders, and other network partners (Normann and Ramírez, 1993). From a service system perspective, value co-creation goes beyond the firm and customer dyad to a broader perspective where all participants contribute to the creation of value for themselves and for others (Vargo et al., 2008). Also, the interactions between actors offer opportunities to facilitate value creation for and with each other (Grönroos, 2008, Payne et al., 2008). In service system environments, value may be defined “simply in terms of an improvement in system well-being and we can measure value in terms of a system’s adaptiveness or ability to fit in its environment” (Vargo et al.,

2008).

In spite of the vibrant research on conceptualizing value creation and value networks, empirical studies have mostly focused on dyadic relationships between customers and service providers (Tax et al., 2013). Further research is needed to understand value co-creation in complex environments, where customers co-create their experiences by combining service offerings from several companies (Patrício et al., 2011) or through do it yourself activities (McColl-Kennedy et al., 2012).

## METHODOLOGY

This qualitative study used a Grounded Theory approach (Charmaz, 2006, Corbin and Strauss, 2008) to understand value co-creation from multiple stakeholders' perspectives in a national Electronic Health Record (EHR) service project: the Portuguese Health Data Platform. Health care was considered a rich ground for the study because the health of citizens depends on a multitude of services and stakeholders, such as physicians, nurses, pharmacists, and family. In particular, the Portuguese Health Data Platform was designed to go beyond being a mere repository of patient data, to become a service that enables doctors, nurses, and citizens to access integrated health information about the citizen. However, to attain this goal, it was crucial to understand how value was co-created by the multiple stakeholders, and how the EHR could support it. The qualitative study therefore contributed to understanding the value co-creation processes in this complex environment, and to design the EHR as a value co-creating service.

Qualitative methods are considered adequate to gain an in-depth understanding of the phenomenon of interest (Corbin and Strauss, 2008). These approaches are especially useful to study complex phenomena with intricate details such as health care. According to grounded theory, each sample was defined according to the theoretical relevance of its cases and until it was saturated (Corbin and Strauss, 2008). The study involved 48 interviews with different stakeholders (Citizens, Doctors, Nurses and Pharmacists) from public and private health care organizations. To understand this many-to-many context, the study started by characterizing the stakeholders of the EHR value network, both individuals and organizations. The second stage involved the study of value co-creation through the interactions between stakeholders. The interviews and focus groups occurred in five different Portuguese cities (see Table 1). The interviews were fully and literally transcribed and analyzed using NVivo 9 software.

The study started with the identification of the stakeholder map showing all entities involved in EHR and the benefits (value) obtained from the interactions between the different stakeholders (Pinho et al., 2011). Based on this stakeholder map, the qualitative study focused on the four most relevant stakeholders: citizens, doctors, nurses and pharmacists. Through data analysis of interviews, the value creation factors were first identified using an open coding process, in which phrases and words describing the phenomena were identified, named, and categorized.

Secondly, using axial coding the concept categories were related to subcategories and its properties and dimensions specified (Corbin and Strauss, 2008). The objective was to find high-level categories of central values that were important to most stakeholders, not just one of them.

Table 1: Sample Design

		Central Hospital	Private Hospital	Primary Care	Citizens/ Organizations
Step 1 – Exploratory Study - Interviews		1 Doctor 1 Nurse 1 Pharmacist			1 Citizen 1 Member of the Ministry of Health
Stage 2 – Focus Group	Doctors	5 Doctors	2 Doctors	2 Doctors	
	Nurses	7 Nurses	3 Nurses	1 Nurse	
	Pharmacists	4 Pharmacists	2 Pharmacists	1 Pharmacist	
	Citizens				8 Citizens
Stage 2 – Interviews		1 Doctor	1 Doctor 1 Nurse	1 Pharmacist 1 Nurse 1 Doctor	1 Citizen

## RESULTS

The study results enabled a better understanding of value co-creation in complex environments with multiple stakeholders. More specifically it allowed: (1) identifying value co-creating dimensions; (2) understanding how value co-creation dimensions are interconnected; and (3) an in-depth understanding of how value co-creation for each stakeholder depends on his/her own actions and the actions of other stakeholders.

Data analysis enabled the identification of twelve broad categories of benefits reflecting different types of value co-creation dimensions observed in the data, as shown in Table 2. Each value dimension includes several sub-categories and the specific beneficiaries. Some dimensions are related to efficiency of EHR like time saving, cost savings, facilitate prescriptions and digitization. Other dimensions are related to usefulness such as information availability, better citizen security, and better decision support. Still other dimensions convert to better health care service and highlight the importance of the interconnections between stakeholders for value co-creation (e.g. holistic view of health history, facilitate communications between practitioners, collaboration between practitioners, and better quality of service). This distinction may be blurred since some dimensions may be useful and convert to better health care service like better decision support.

Table 2: Value co-creation dimensions

Value dimension	Definition	Sub-categories	Beneficiary Stakeholders
Holistic view of health history	Quickly and chronological view of patients health episodes	<ul style="list-style-type: none"> <li>• EHR provides practitioners the patient’s health history</li> <li>• Evaluate former treatment results</li> <li>• EHR provides practitioners the patient’s social context</li> <li>• Detect over utilization of healthcare services</li> </ul>	Citizen, Doctor, Nurse, Pharmacist
Information availability	Information available anywhere, anytime	<ul style="list-style-type: none"> <li>• Health professionals may access patient information from different sources whenever needed</li> <li>• Clinical records availability in emergency episodes</li> <li>• Access information about medication</li> </ul>	Citizen, Doctor, Nurse, Pharmacist
Facilitate prescriptions	Prescriptions are easier to make and control	<ul style="list-style-type: none"> <li>• Avoid prescription errors</li> <li>• Avoid prescription duplication</li> <li>• Support medicine dosage adaptations</li> </ul>	Citizen, Doctor, Nurse, Pharmacist
Facilitate communication between practitioners and patients	Communication problems and forgotten information is reduced	<ul style="list-style-type: none"> <li>• Avoid forgotten information from patients</li> <li>• Get correct information when family or patient can't recall</li> <li>• Avoid communication problems between practitioners and patients</li> <li>• Clarify patient inconsistencies regarding is own health</li> </ul>	Citizen, Doctor, Nurse, Pharmacist
Digitization	Substitution of paper records by electronic records	<ul style="list-style-type: none"> <li>• Avoid lost information inside health system</li> <li>• EHRs more secure than paper</li> <li>• Updated health record records</li> </ul>	Citizen, Doctor, Nurse, Pharmacist

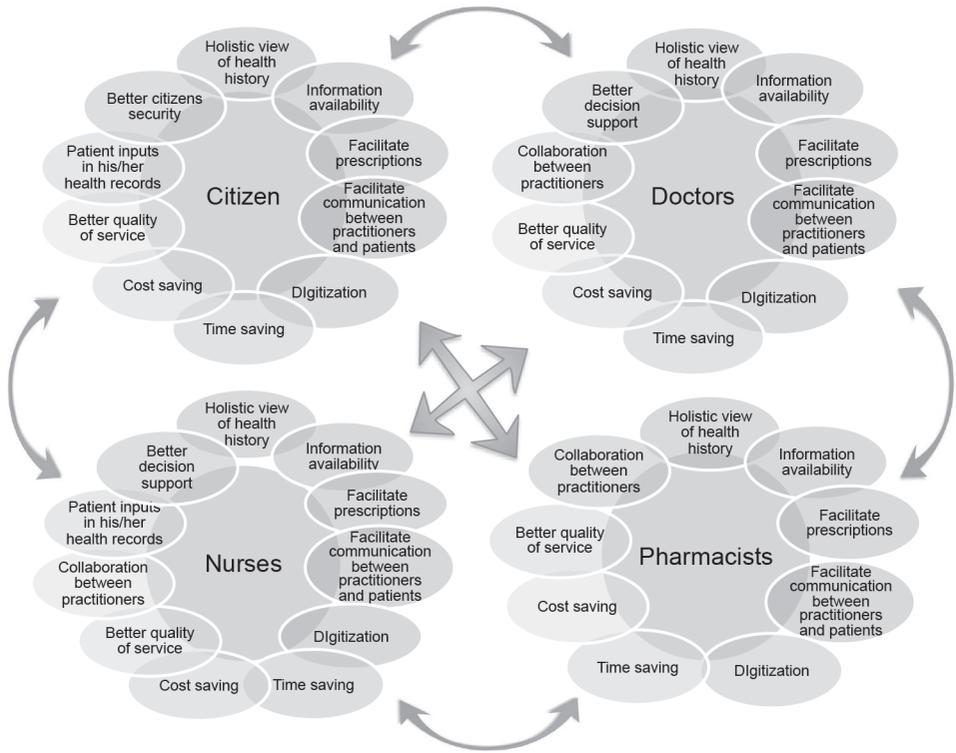
Table 2 (continued)

Value dimension	Definition	Sub-categories	Beneficiary Stakeholders
Time saving	Time saved in accessing health information and in procedures	<ul style="list-style-type: none"> <li>• Fast access to patient health history avoiding time wasting</li> <li>• Fasten health care procedures</li> </ul>	Citizen, Doctor, Nurse, Pharmacist
Cost saving	Cost saved by avoiding duplication of all resources	<ul style="list-style-type: none"> <li>• Resources optimization</li> <li>• Avoid exams duplication</li> <li>• Avoid resources waste and effort duplication</li> </ul>	Citizen, Doctor, Nurse, Pharmacist
Better quality of service	Better health service provided to the patient	<ul style="list-style-type: none"> <li>• Support clinical decisions</li> <li>• Better diagnosis</li> <li>• Better treatment</li> </ul>	Citizen, Doctor, Nurse, Pharmacist
Collaboration between practitioners	Practitioners can exchange information	<ul style="list-style-type: none"> <li>• Facilitate information exchange between practitioners</li> </ul>	Doctor, Nurse, Pharmacist
Patient inputs in his/her health records	Patients can insert relevant information in personal health record	<ul style="list-style-type: none"> <li>• EHR allows patient collaboration</li> </ul>	Citizen, Nurse
Better decision support	Helps public health management decisions	<ul style="list-style-type: none"> <li>• Support decisions for public health and health politics</li> </ul>	Doctor, Nurse
Better citizen security	Citizen feelings of security by having all data available when necessary	<ul style="list-style-type: none"> <li>• Citizens feel more secure</li> <li>• Facilitates continuity of care</li> <li>• Information available in foreign countries</li> </ul>	Citizen

This study also allowed a better understanding of the interconnections among stakeholders. The results revealed that the activities, requirements, information and value co-created between stakeholders are all highly interconnected (see Figure 1). However, the different stakeholder interactions and resources required may occur at different points in time. For example, when a citizen visits his General Practitioner (GP) because of a health problem (not acute) the GP prescribes a set of exams to help him or her make the diagnosis. After performing the exams, the citizen returns to the health center for an appointment with his GP. The GP diagnoses a specific problem and forwards him to a specialist physician. The citizen goes to the hospital looking for the specialist and he tells him or her that the problem is not serious and prescribes a set of drugs that must be administered by a nurse. The citizen then turns again to the health center to carry out the treatment and finally visits the GP to complete the episode.

The value co-creation occurs in an interactive way. That is, the actions are dependent on each other and can be repeated, and the output can turn into a new input. Some of the dimensions found already addressed

Figure 1: Value co-creation network



specifically the intricate interconnections among stakeholders. For example, as a Nurse said “It’s very important for us to be able to see the doctor’s diagnosis in order to provide the best treatment to the patient.” Thus, the different stakeholders can co-create value by combining resources such as the information inserted by each one. For instance, the health information in the EHR inserted by Health Center doctor, and the one filled by the citizen about his or her allergies, may be used by Hospital Doctors to have a holistic view of the patient health history and make a better diagnosis. As a Doctor pointed out, the EHR allows “In a short amount of time to have a view of the patient health history”. Also, information inserted by the nurses about treatments, which are going to be followed through in the Health Center, help the Health Center practitioners in continuing the health care. Thus, as previously conceptualized, value-creation occurs in a network of activities involving multiple stakeholders (Vargo and Lusch, 2008, Gummesson, 2007).

The citizen is the most important stakeholder and the health system should be citizen centered. Citizens want to be able to access and understand their health information. This was emphasized by a citizen who said, “It’s crucial to be able to access my healthcare information. I want to access my prescriptions, exam reports and be able to share this data with other physicians.” Another citizen feels that “it’s very difficult for

me to understand an exam report or a discharge note. The information should be easy to read and understand even if we are not familiar with clinical terms.” Accordingly to McColl-Kennedy et al. (2012) “the customer is the primary resource integrator in the co-creation of their own health care management”. However, in the context of multiple stakeholders the interests of all parties should be balanced since they have the right to satisfaction of their needs and wants (Gummesson, 2007).

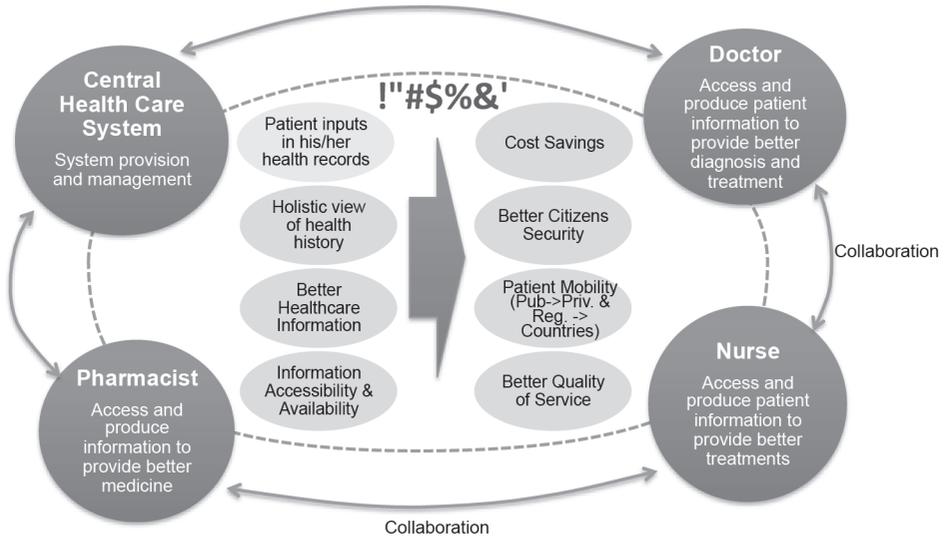
Finally, the results showed that the value co-created for each stakeholder depends on his/her own actions and the actions of other stakeholders. Also, each stakeholder has different perspectives and requirements about the EHR and its potential value. Figure 2 presents how the citizen cocreates value through the EHR showing the interconnections with other stakeholders. The citizen was placed in the center of the network with the other main stakeholders around, with the central part of the figure reflecting the citizen value co-creation dimensions and respective dependencies. The amount and type of resources such as information, knowledge, and skills that the stakeholders access and use may vary. Information is a key resource for value co-creation. All stakeholders require information and produce information that is needed for them and for others. Also, the interdependencies between stakeholders and the impact of their actions on other stakeholder’s value are highlighted. As a citizen stated, EHR provides “efficiencies, benefits, paper savings, time savings, error reduction, increased efficacy and better general health care.” However, these improvements are dependent on the citizen’s inputs to the personnel health record and the inputs of other stakeholders, too.

## CONCLUSION

Study results show that value creation results from the complex combination of interactions and interdependencies between stakeholders. The value perceived by the citizen depends on his or her own actions, the doctor’s actions, the nurse’s actions, the other stakeholders, as well as information and artifacts of the service system. Also, the interaction between each stakeholders and the EHR is influenced by the quality of the information that is exchanged by the other stakeholders involved in the service system. Moreover, the users level of engagement with the service and attitudes towards it will influence their degree of contribution to value co-creation and its subsequent effects on the perceived benefits.

This study shows that the overall service system should be viewed through a holistic perspective, but take into account that different stakeholders perform different activities and integrate resources

Figure 2: Value co-creation through electronic health records



differently. This is especially needed in a complex service system environment (with many to many relationships). In this context, service is created in a network of activities involving many stakeholders (Gummesson, 2007). Furthermore, their interactions with the service and with each other are very important to value co-creation. This calls for deeper understanding of the stakeholders interconnections and how they influence each other to co-create the overall service value.

This study responds to the need for empirical studies showing the relationships and interactions phenomena from a multiple stakeholder perspective. It contributes to a better understanding of value co-creation in a many-to-many context by exploring how value co-creation is perceived and operationalized in a complex service system such as EHRs.

## REFERENCES

- Charmaz, K., (2006), *Constructing Grounded Theory: A Practical Guide through Qualitative Analysis* London, SAGE Publications Ltd.
- Corbin, J. and Strauss, A., (2008), *Basics of Qualitative Research*, 3 ed, Thousand Oaks, CA, Sage Publications.
- Grönroos, C., (2008), "Service logic revisited: who creates value? And who co-creates?", *European Business Review*, 20, 298-314.
- Gummesson, E., (2006), Many-to-many marketing as grand theory: A Nordic School contribution. In: Lusch, R. F. a. V., Stephen L. (ed.) *Toward a Service-Dominant Logic of Marketing: Dialog, Debate, and Directions*. New York: M.E. Sharpe.

- Gummesson, E., (2007), "Exit services marketing - enter service marketing", *Journal of Customer Behaviour*, 6, 113-141.
- Hayrinena, K., Saranto, K. and Nykanen, P., (2008), "Definition, structure, content, use and impacts of electronic health records: A review of the research literature", *International Journal of Medical Informatics*, 77, 291-304.
- ISO 2004. ISO/DTR 20514 - Health Informatics - Electronic Health Record - Definition, Scope, and Context. ISO, Geneva, Switzerland.
- Maglio, P., Vargo, S., Caswell, N. and Spohrer, J., (2009), "The service system is the basic abstraction of service science", *Information Systems and e-Business Management*, 7, 395-406.
- Mccoll-Kennedy, J. R., Vargo, S. L., Dagger, T. S., Sweeney, J. C. and Kasteren, Y. V., (2012), "Health Care Customer Value Cocreation Practice Styles", *Journal of Service Research*, 15, 370-389.
- Normann, R. and Ramírez, R., (1993), "From value chain to value constellation: designing interactive strategy", *Harvard Business Review*, July-August, 65-77.
- Patrício, L., Fisk, R., Cunha, J. F. and Constantine, L., (2011), "Multilevel Service Design: From Customer Value Constellation to Service Experience Blueprinting", *Journal of Service Research*, 14, 180-200.
- Payne, A., Storbacka, K. and Frow, P., (2008), "Managing the co-creation of value", *Journal of the Academy of Marketing Science*, 36, 83-96.
- Pinho, N., Patrício, L., Fisk, R. and Nunes, N., (2011), "Designing Complex Services for multiple stakeholders: Applying Systems Theory to Electronic Health Records", 20th *Frontiers In Service Conference* -American Marketing Association, Columbus, Ohio, USA.
- Pinho, N., Patrício, L., Fisk, R. and Nunes, N., (2012), "Complex services require holistic design: An in-depth study of creating an Electronic Health Record system", *The Art & Science of Service - Innovations in Service Supply Chain Design*, Maastricht, The Netherlands.
- Spohrer, J., Maglio, P. P., Bailey, J. and Gruhl, D., (2007), "Steps Toward a Science of Service Systems", *Computer*, 40, 71-77.
- Tax, S. S., Mccutcheon, D. and Wilkinson, I. F., (2013), "The Service Delivery Network (SDN): A Customer-Centric Perspective of the Customer Journey", *Journal of Service Research*, published online first.
- Vargo, S. and Lusch, R., (2008), "Service-dominant logic: continuing the evolution", *Journal of the Academy of Marketing Science*, 36, 1-10.

Vargo, S. L., Maglio, P. P. and Akaka, M. A., (2008), "On value and value co-creation: A service systems and service logic perspective", *European Management Journal*, 26, 145-152.

Verhoef, P. C., Lemon, K. N., Parasuraman, A., Roggeveen, A., Tsiros, M. and Schlesinger, L. A., (2009), "Customer Experience Creation: Determinants, Dynamics and Management Strategies", *Journal of Retailing*, 85, 31-41.

# VALUE CO-CREATION IN SERVICE INTERACTIONS DIMENSIONS AND ANTECEDENTS

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## ABSTRACT

The purpose of this article is to further develop the conceptualization of value co-creation and discuss its dimensions and antecedents. We propose that in service interactions, value co-creation should be understood as a joint collaborative activity between service employees and customers consisting of six dimensions, which correspond to simpler joint actions (individuated, relational, empowered, ethical, developmental and concerted joint actions). Furthermore, we address communicating, relating and knowing as antecedents of value co-creation. This article is among the first to propose an analytical framework for the study of value co-creation and can drive both future research and guide managers interested in implementing the service logic principles.

## INTRODUCTION

Recent years have seen a surge in research in the newly coined field of service logic<sup>1</sup>, which has been influential in redefining the key elements of marketing. A key concept within this field is that of value co-creation, the idea that value is not solely being created for the customer by the provider of a service, but for and by both parties throughout the time of their interaction. Since Vargo and Lusch's (2004) seminal article that first introduced the premises of the service logic, more than 740 articles mention co-creation in their title<sup>2</sup>, yet this literature is marred by significant conceptual confusion and ambiguity.

While several researchers agree that value co-creation is a complex concept consisting of several dimensions, there is little agreement as to which these dimensions are (Randall et al., 2011; Yi and Gong, 2012). We believe this confusion has been sparked by Vargo and Lusch's (2008) initial proposition that customers are always value co-creators, a stance that has recently been challenged by Grönroos and Voima (2013), who established that although customers create value-in-use while using firm products and services, value co-creation is primarily a function of the interaction between service employees and customers.

Moreover, to date, most studies of value co-creation have either focused on the meso- and macro-perspectives rather than the micro-level of service interactions (Chandler and Vargo, 2011), or have focused on the output rather than the value co-creation activity itself (Gummerus, 2013), therefore providing few answers regarding how customers and employees co-create value in direct interactions.

This article continues the efforts of Grönroos and Voima (2013) of conceptualizing value co-creation. First, we propose that value co-creation (on the micro-level) can be understood as a joint activity consisting of six formative dimensions, corresponding to simpler joint actions: individuated, relational, empowered, ethical, developmental and concerted joint actions. These dimensions have been originally discussed as part of a service logic firm orientation by Karpen et al. (2012) and, in this article, are being adapted to the micro-level of service interactions between service employees and customers.

Second, we continue the search for conceptual clarity by differentiating these dimensions from three antecedents - relating, communicating and knowing – discussed originally by Ballantyne and Varey (2006). The discussion of the antecedents strengthens our conceptualization as it sets the boundaries of value co-creation by distinguishing the activity itself from the factors that promote it. By discussing both the dimensions and antecedents of value co-creation we develop a conceptual framework of value co-creation, which clarifies the boundaries of the concept and is capable of driving fruitful future research (Gilliam and Voss, 2013; MacKenzie, 2003). This framework is also valuable for practitioners interested in adopting a service logic strategy and encouraging value co-creation as a means of developing a competitive advantage (see e.g. Prahalad and Ramaswamy, 2004).

## CONCEPTUALIZING VALUE CO-CREATION

Grönroos conceptualizes value co-creation as “joint collaborative activities by parties involved in direct interactions, aiming to contribute to the value that emerges for one or both parties” (2012: 6). This conceptualization is the first to set the boundaries of value co-creation by moving away from the belief that value is always co-created (Vargo and Lusch, 2008) towards claiming that value can only be co-created in direct interactions.

In services, joint activities that require customer and service employee interactions, can be considered complex, as they include several discrete joint actions. These joint actions create value in different ways: empowering customers can increase their sense of self-worth, while developing a relationship can nurture a feeling of belonging to a group. Although the discrete joint actions have different objectives, together they compose the value co-creation activity. To summarize, we consider value co-creation to be a multidimensional concept.

## VALUE CO-CREATION DIMENSIONS

This article is not the first to consider value co-creation as a multidimensional concept. Randall et al. (2011) discuss three potential dimensions of value co-creation, namely connection, trust and commitment. Yi and Gong (2012) investigated the customer perspective and concluded that value co-creation

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<sup>1</sup> Following Grönroos (2011), we prefer the term ‘service logic’ to that of ‘service-dominant logic’

<sup>2</sup> Number derived from Google Scholar search (April, 2013)

is a third order construct, consisting of customer citizenship behaviour and customer co-creation behaviour as second-order dimensions. The most recent article to discuss value co-creation dimensions is that of Gustafsson et al. (2012) which addresses four dimensions of communication as potential dimensions of value co-creation within an innovation context. It is obvious that there are little similarities between these three studies, mostly caused by the lack of a unifying conceptualization of value co-creation. The most significant problem is that the aforementioned studies do not address the locus of value co-creation (service interactions) or its conceptual boundaries, therefore contributing to the confusion surrounding the concept of value co-creation and its dimensions.

The only article to date that addresses service interactions from a service logic perspective is that of Karpen et al. (2012). Their conceptual article has identified six types of interactions between customers and service firms: individuating, relating, empowering, ethical, developmental and concerted interactions. The concept of value co-creation is implied within the article of Karpen et al. (2012), but not directly addressed, the authors preferring to discuss interactions at the firm level and focusing on firm capabilities rather than manifestations of these capabilities within service interactions, or the roles of customers and service employees in these interactions. However, customers and employees are the enactors of these capabilities, and it is through their actions that value is co-created. Therefore, we argue that an understanding of value co-creation should commence with investigating the actions customers and employees engage in interactions, with the goal of generating value for at least one of the participants, in line with Grönroos (2011; 2012). In order to focus on the activity of value co-creation, we continue by adapting the interactions identified by Karpen et al. (2012) to the micro level of customer-employee service interactions and discuss them as joint collaborative actions that constitute the dimensions of value co-creation.

### Individualizing joint actions

At the organizational level, Karpen et al. (2012: 25) defined a firm's individuated interaction capability as "an organization's ability to understand the resource integration process, contexts and desired outcomes of individual customers and other value network partners." Therefore, at the service interaction level, we define individualizing joint actions as collaborative actions between customers and employees aimed at establishing a mutual understanding of each other's resource integration processes, roles, and desired outcomes. Individualizing joint actions aim at the development of a mutual understanding of the purposes of the interaction, of each participant's possible contribution, as well as the resources they have access to in order to achieve their goals.

### Relating joint actions

Any interaction involves a relational element. While relating can be seen as a necessary condition for interactions to occur (Ballantyne and Varey, 2006), relating actions are also part of the value co-creating activity. Relationship marketing has been widely acknowledged as a significant

source of customer value. While discussing a firm's relational interaction capability, Karpen et al. (2012: 25) defined it as "an organization's ability to enhance the connection of social and emotional links with customers and other value network partners." Consequently, within a service interaction, this dimension would translate into actions aimed at establishing or enhancing a social and emotional connection between service employees and customers. These connections can vary in intensity between mere agreeableness to sometimes friendship.

### Empowering joint actions

Joint collaborative activities are built on the premise that both participants have the power to influence the outcome of the interaction. At the firm level, this translates into the firm's "ability to enable its customers and other value network partners shape the nature and content of exchange" (Karpen et al., 2012: 28). Therefore, at the service interaction level, we define empowering joint actions as collaborative actions aimed at negotiating the power to influence the outcome of the interaction among customers and service employees.

### Ethical joint actions

We consider ethical joint actions to be collaborative actions aimed at setting fair, honest and moral guidelines between interacting participants. Ethical behaviour is a key element to collaboration, as successful interactions require that participants are working towards a shared goal and hold no conflicting hidden agendas (personal gains).

### Developmental joint actions

A firm's developmental interaction capability is defined as its "ability to assist customers and other value network partners' knowledge and competence development" (Karpen et al., 2012: 29). Within service interactions, developmental joint actions are those actions aimed at improving the customers' and employees' operant and operand resources. Operand resources are tangible in nature, and can include products being exchanged (Vargo and Lusch, 2004). Operant resources on the other hand are intangible and include knowledge, skills, networks (Madhavaram and Hunt, 2008; Vargo and Lusch, 2008).

### Concerted joint actions

Concerted joint actions are collaborative actions aimed at the synchronization between customers and service employees through either relevance or timing. In service interactions, concerted joint actions include adapting participants' behaviours to one another, engaging in movement coordination, establishing agreements, coordination, and perspective taking.

To summarize, we have discussed value co-creation as a joint activity consisting of simpler joint collaborative actions. Specifically, we have adapted the six dimensions of value co-creation, derived from Karpen et

al. (2012) to the micro level of service interactions and discussed them as joint collaborative actions between customers and employees. The next step is to clarify the antecedents of value co-creation.

## VALUE CO-CREATION ANTECEDENTS

To the authors' knowledge, the only article to discuss value co-creation antecedents is that of Ballantyne and Varey (2006), which examines the role of communicating, relating and knowing. These three overarching concepts are considered fundamental for the success of most joint collaborative activities (Clark, 1996) as they provide the structural support for the actions of the interacting customers and employees, improve the coordination of their actions and intensify their cooperation (Ballantyne and Varey, 2006).

First, communicating allows participants to engage in dialogical interactions in which both the voices of the customer and service employee can be heard, and both have the power to influence the outcome of the interaction. Second, relating promotes the social aspects of interactions and aids the development of trust and positive social initiatives. Third, knowing allows participants to develop a shared mental model and to improve each other's knowledge bases therefore promoting the co-creation of value via operant resources.

## A SYNTHESIS

By taking a critical look at the concept of value co-creation at the micro-level, it is possible to start discussing its dimensions and antecedents. This analysis is based on the notion that at its basis, value co-creation is a joint collaborative activity between a customer and a service employee. In service interactions, these participants are customers and service employees. The goal of these collaborative activities is to create value for at least one of the participants. Joint activities comprise of several discrete joint actions, and are therefore considered to be multidimensional. Specifically, we have discussed six types of collaborative joint actions that can be combined to create a more comprehensive value co-creation concept: individualizing, relating, ethical, empowering, developmental and concerted actions.

While these dimensions are part of the process of value co-creation, we also discuss communicating, relating and knowing, and how they contribute to the success of value co-creation activity (Ballantyne and Varey, 2006) by allowing participants to align their goals, establish an emotional connection, negotiate power, establish ethical guidelines, and coordinate their actions.

## LIMITATIONS AND FUTURE STUDIES

As the aim of this article was to conceptualize value co-creation and discuss its dimensions and antecedents, the proposed framework is conceptual, and therefore in need of empirical validation. This empirical validations should start with the development of a scale that can be used to measure

value co-creation activities between customers and service employees. Second, while this framework includes the dimensions and antecedents of value co-creation, it does not cover the outcomes of this joint collaborative activity, in terms of customer satisfaction, service experience, perceived value or loyalty intentions. Similarly, while service interactions are moving toward higher levels of value co-creation, the effects of this change on employee wellbeing, job autonomy and satisfaction or turnover intentions have yet to be explored.

Finally, future studies are also encouraged to aim for depth in explaining value co-creation with the help of qualitative methods which are suited to explore the experiential aspect of value co-creation: ethnographic studies could help understand the role of value co-creation in customer culture, as well as the differential roles customers assume during value co-creation; observational studies could investigate the dyadic perspective of value co-creation by observing co-creating interactions; in-depth interviews can highlight potential problems between the process and the outcome of value co-creation by analyzing the process in light of the participant's individual goals, resources, networks and personal history.

## MANAGERIAL IMPLICATIONS

Understanding the different value co-creation dimensions and its antecedents is a critical first step in implementing strategies aimed at encouraging value co-creation activities and contributing to their success, especially for firms interested in using value co-creation as a competitive advantage. First, by understanding co-creation as a joint collaborative activity, and having an overview of its comprising dimensions, managers can start tracking their own service interactions and identify how to strengthen their own portfolios. Second, identifying the antecedents of value co-creation in service interactions allows managers to understand how they and their employees can contribute to successful value co-creation interactions. Third, raising awareness about the important role that both customers and service employees play in value co-creation will require significant changes in training programs across the service industry that focus on encouraging communication, relating and knowing.

Overall, we believe that this framework has opened an avenue for exciting new research that will shed light on why, when and how service employees and customer co-create, and what antecedents improve this value co-creation. This article has taken the first steps towards helping managers understand how they can encourage successful value co-creation across their firms by focusing on employee-customer interactions.

## REFERENCES

Ballantyne, D. and Varey, R. J. (2006), "Creating value-in-use through marketing interaction: the exchange logic of relating, communicating and knowing", *Marketing Theory*, 6 (3) 335-348

Chandler, J. D. & Vargo, S. L. (2011), "Contextualization and value-in-context: How context frames exchange", *Marketing Theory* 11 (1) 35-49

- Clark, H. H. (1996), *Using Language*, Cambridge University Press, Cambridge
- Gilliam, D. A. and Voss, K. (2013), "A proposed procedure for construct definition in marketing", *European Journal of Marketing*, 47 (1) 5-26.
- Grönroos, C. (2011), "Value co-creation in service logic: a critical analysis", *Marketing Theory*, 11 (3) 271-301
- Grönroos, C. (2012), "Conceptualizing value co-creation: A journey to the 1970s and back to the future", *Journal of Marketing Management*, 28 (13-14) 1520-1534
- Grönroos, C. and Voima, P. (2013), "Critical service logic: making sense of value creation and co-creation", *Journal of the Academy of Marketing Science*, 41 (2) 133-150
- Gummerus, J. (2013), "Value creation processes and value outcomes in marketing theory: Strangers or siblings?", *Marketing Theory*, DOI: 10.1177/1470593112467267
- Gustafsson, A., Kristensson, P. and Witell, L. (2012), "Customer co-creation in service innovation: a matter of communication", *Journal of Service Management*, 23 (3) 311-327
- Karpen, I. O., Bove, L. L. and Lukas, B. A. (2012), "Linking service-dominant logic and strategic business practice: a conceptual model of a service-dominant orientation", *Journal of Service Research*, 15 (1) 21-38
- MacKenzie, S. B. (2003), "The dangers of poor construct conceptualization", *Journal of the Academy of Marketing Science*, 31 (3) 323-326
- Madhavaram, S. and Hunt, S. D. (2008), "The service-dominant logic and a hierarchy of operant resources: developing masterful operant resources and implications for marketing strategy", *Journal of the Academy of Marketing Science*, 36 (1) 67-82
- Prahalad, C. K. and Ramaswamy, V. (2004), "Co-creating unique value with customers", *Emerald* 32
- Randall, W. S., Gravier, M. J. and Prybutok, V. R. (2011), "Connection, trust, and commitment: dimensions of co-creation", *Journal of Strategic Marketing*, 19 (1) 3-24
- Vargo, S. L. and Lusch, R. F. (2004), "Evolving to a new dominant logic for marketing", *Journal of Marketing*, 68 (1) 1-17
- Vargo, S. L. and Lusch, R. F. (2008), "Service-dominant logic: continuing the evolution", *Journal of the Academy of Marketing Science*, 36 (1) 1-10
- Yi, Y. and Gong, T. (2012), "Customer value co-creation behaviour: scale development and validation", *Journal of Business Research*, DOI:

10.1016/j.jbusres.2012.02.026.

# VALUE IN LEAN HEALTHCARE – A CRITICAL APPRAISAL FROM A SERVICE PERSPECTIVE

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## ABSTRACT

This study examines the definition of value in Lean production and problematizes the implementation of Lean in healthcare from the Service-Dominant Logic perspective. Based on three case studies, we analyse how healthcare providers operationalize Lean principles with regards to specification and creation of value. The study makes several important contributions to theory and practice. First, we describe how patient value is understood in a Lean healthcare perspective. Second, we demonstrate the implications of a Lean-based view on value and value creation on healthcare services. Third, based on our empirical and theoretical findings, we suggest how healthcare can benefit from both Lean production and service theory to create better healthcare.

## INTRODUCTION

Lean production, with its roots in the Toyota Production System, has had an important impact on production practices and research in recent decades, promising higher productivity and quality (Shah and Ward, 2003). The term “lean” was coined by Krafcik (1988) to describe the superiority of the Toyota Production System, which required less resources to make a greater and growing variety of products with fewer defects. Many success stories have since followed, promising substantial improvements in quality and productivity (Fullerton et al., 2003). In hope of harvesting similar benefits from Lean, attempts are being made in both practice and research to apply the concept in the service sector, notably in healthcare. It is now common among healthcare organisations to implement Lean production in order to improve quality and increase efficiency of healthcare delivery (de Souza, 2009). The results from different case studies are encouraging and show that Lean production mainly contributes to reduced costs and eliminating waiting times (Young and McClean, 2008; Poksinska, 2010).

A central concept of Lean production is to understand value from the customer’s perspective. This is the starting point for the producer to identify and eliminate activities that do not create value for the customer (Womack and Jones, 1996). Value and value creation are likewise central themes in service management and marketing literature (Pralahad and Ramaswamy, 2004; Vargo and Lusch, 2004; Grönroos and Ravald, 2011). The field is summarized in the work concerning the Service-Dominant Logic (SDL) in which service and not goods is foundational, and the subjectivity of value is highlighted. “Value is always uniquely and phenomenologically determined by the beneficiary” (Vargo and Lusch, 2008). Furthermore, it suggests that value is always co-created with customers (Vargo and Lusch, 2004).

Despite these fundamental differences in view of the central value construct in Lean relative other service research, little debate has taken

place regarding its definition and how value is created in healthcare. While we acknowledge the benefits Lean production can bring to healthcare, we are concerned by the lack of discussion regarding its underlying theoretical premises and the consequences it may have on practice.

The aim of this study is thus to discuss the definition of value in Lean production and to problematize the implementation of Lean production in healthcare from the SDL perspective. This study can inform caregivers in their continued efforts to improve healthcare service, by offering a more nuanced perspective on value and suggest how other service practices can co-exist with lean production in healthcare. Our hope is that this study encourages other scholars to continue the discussion of the underlying theoretical foundations of healthcare operations initiated here, to advance the field and allow for new, innovative ways of providing care.

## THEORETICAL FRAMEWORK

### The Lean perspective on value creation

A key concept in Lean production is to understand value as seen by the customer. From this viewpoint, activities and actions that do not add value can be identified and eliminated (Womack and Jones, 1996). Lean production has been summarised by Womack and Jones (1996) in five Lean principles. The first two principles state that value should be defined by the end-use customer and value stream should be identified and improved. Ohno, who is often referred to as the father of the Toyota Production System, divides work performed in the production into value-adding activities and waste (Ohno, 1988). An activity is value-adding under the following three criteria: the customer is willing to pay for it, the activity transforms the product in some way, and the activity needs to be performed correctly the first time. If an activity doesn't fulfil any of the criteria it is considered waste. Ohno (1988) identified seven types of waste: overproduction, waiting, transportation, inventory, motion, over-processing and defective units. The Lean production literature, however, seldom discusses how to define value from the customer perspective. In many cases value is simply defined in opposition to waste: "What is not waste, is value".

The core philosophy of Lean production is to continually improve a process by eliminating non-value added steps or "waste". Value Stream Mapping (VSM) is used for identifying all activities involved in the value creation process and eliminating waste (Rother and Shook, 1998). Systematically, the production process is divided into what is waste and what is not waste, thus a ratio between value-adding time and non-value-adding time can be calculated. This perspective implies that value is created for the customer in the production process and the customer is a passive consumer of products.

Womack and Jones (1996) were among the first authors who suggested that Lean thinking can be applied in healthcare. The authors argued that the first step in the implementation of Lean thinking in healthcare

is developing care processes based on the patient's perspective, with a focus on shortening lead times and increasing the value for the patient. Lean methods such as value stream orientation and cross-functional teams working around the patient were emphasized as especially relevant for the healthcare context (Womack and Jones, 1996).

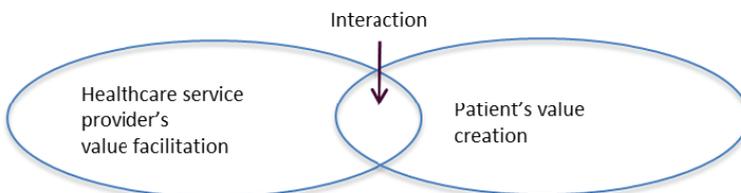
The literature review performed by Poksinska (2010) showed that Lean is mostly used in healthcare as a process improvement approach and VSM is the most frequently applied Lean tool. Lean aims to enhance process steps that are necessary and relevant to the patient, while eliminating those that fail to add value (Spear, 2005). Several studies show that the focus in Lean application lies on internal efficiency and cost control and little attention is paid to defining patient value (Radnor et al., 2012). Frequently mentioned difficulties are the ambiguity of the term "customer" in the healthcare context, conflicting goals between different interest groups and the lack of appropriate methods to define patient value (Young and McClean, 2008; Radnor et al., 2012).

### Value creation and Service-Dominant Logic (SDL)

According to the SDL value is not created by the service provider, but is always co-created with customers (Pralahad and Ramaswamy, 2004; Vargo and Lusch, 2004). This is a view of the customer and value building on the concept of value-in-use, rather than value-in-exchange. It is proposed that the distinction between goods and services should be eliminated and that service is the unifying concept (Vargo and Lusch, 2004). In the example of a Toyota car, the car has no value until someone uses it, and the person driving it creates a value of transportation. Before that, there is only potential value.

This can be illustrated by the model (see Figure 1) proposed by Grönroos and Ravald (2011). Adapted to healthcare, the model shows that the patient's process of value creation consists of the healthcare provider's sphere and the patient's sphere with an interaction between the two spheres. The consequence of this model is that value cannot be created in the healthcare provider's sphere, but only in the patient sphere. The healthcare providers are not producers of the value, but facilitators of the value creation processes.

Figure 1: Value creation (adapted from Grönroos and Ravald, 2011).



Furthermore, we can divide the patient's value-creating process into an open part, in which interactions are made with the healthcare provider, and a closed part where the patient is alone in creating value (Grönroos

and Ravald, 2011). Similarly, the healthcare provider has one part of its operations closed to the patient, and an interaction part where the two parties can interact. This is only a perspective on value creation, and it is not normative per se. However, the changed perspective on how value is created influences what the producer chooses to do in order to create value for, or rather with, the customer. In this case focus shifts from internal processes to the quality of customer-company interactions and experiences (Grönroos and Ravald, 2011).

## METHOD

The results presented in this paper are based on three case studies performed in healthcare organisations that are considered successful cases in implementing Lean production. The primary source of information was semi-structured interviews. The interviewees were chosen to represent a mixture of different professions and positions (for details see Table 1). The data was also derived from different documents such as strategy documents, implementation plans, performance reports, documented procedures, PowerPoint presentations describing Lean work and multiple whiteboards displayed at case study organisations.

Table 1: Case organisations and data collection methods

Case and description	Data collection
<i>Care centre Alpha</i> Primary care centre. Approx. 25 employees	6 interviews (3 doctors, 3 nurses); Document studies
<i>Care centre Beta</i> Primary care centre Approx. 35 employees	8 interviews (4 doctors, 2 nurses, 1 physiotherapist, 1 secretary); Document studies
<i>Physiology clinic</i> Hospital unit Approx. 20 employees	10 interviews (3 doctors, 1 nurse, 2 secretaries, 4 biomedical analysts); Document studies

A draft summary of the principal findings was presented at feedback sessions with key respondents. The purpose of these sessions was to validate the results and to expand the analysis through elaboration, reaction, and the development of alternate and multiple interpretations of the findings (Merriam, 1998).

## FINDINGS

In the following section we present three important steps in relation to value creation in Lean healthcare. First, we describe how the case organizations specified value; second, how the organizations analysed current value proposition; and third, what other Lean tools and techniques were used to enhance value creation.

### Specifying patient value

One of the challenges of specifying patient value in the case organisations

was that the patient was considered as one of many customers of healthcare services. When the respondents were asked who their customer was, the first answer was always “the patient”. It was commonly stated that without patients healthcare would not be needed and the purpose of healthcare systems is to provide care to patients. After this statement followed reflections that the patient is not a customer in a market economic sense and that there are other customers that also need to be considered. Other customers can be family members, healthcare providers, policy makers and citizens. The healthcare staff explained that the value of care services cannot be specified solely by patients, but needs to also consider the perspective of healthcare providers to ensure quality, safety and appropriate service. The usual practice was however to just focus on eliminating waste from processes, not understanding value as defined by the patient. Providing timely care, which means reducing waits and delays both for those who receive and those who give care, was an important principle characterizing Lean improvement work. It could be said that the overall aim of implementing Lean at the case organisations was to find time wasters to be able to take care of more patients.

### Analysis of current value proposition – Value Stream Mapping

In all three case organisations Value Stream Mapping (VSM) was used. The method implied mapping the sequence of activities, which are performed to achieve a particular result. Some value streams were mapped from the patient perspective, other from the healthcare staff perspective. VSM from the patient perspective implied analysing patient flow through each stage of the process in order to identify different types of barriers. One example was the reception and doctor visit process at primary care centres. A team representing different healthcare professionals mapped what happens from the moment the patient calls to make an appointment until she/he receives the care needed. When all the steps in a patient’s pathway were identified, the healthcare staff analysed the process focusing on the following aspects: Where and when does the patient have to wait? Does the process include any duplicate work? Where are there problems for patients? In summary, there was a focus on identifying different types of time wasters. Although the healthcare staff has emphasized that the purpose of VSM is to improve patient value, the analysis didn’t lead to greater understanding of patient requirements and “value”. No patients were involved in any of the performed VSMs nor were methods applied to understand or determine what the patient required, expected or desired in terms of value. VSM was not seen as an opportunity to reflect about what creates patient value, but rather as a fix for pre-existing problems. The already mentioned example of VSM of reception and doctor visit has led to several improvements, which benefited both patients and care centres. One of the problems discovered was that telephone queues are particularly long on Mondays. Further investigation revealed that patient demand for care was higher at the beginning of the week, but healthcare staff availability was smaller since for example doctors used to plan their “appointment-free days” on Mondays. The understanding of this fact revealed several changes, which improved the telephone availability and decreased waiting time for doctor visits at both care centres (over 90% of patients received contact with care centres within one day and could visit

the doctor within seven days).

The other type of VSM was performed from the staff perspective and considered as a customer other healthcare providers or healthcare staff itself. In this case it was not patient flow but staff activities that were analysed to identify improvements. Again the focus was on identifying different time wasters to release more time for patient care. An example of this type of VSM was the diagnosis process of heart patients at the physiology clinic. The primary activity of the physiology clinic is to perform different types of diagnosis and tests ordered by other clinics of the hospital. Therefore, the clinic considered both patients and other healthcare providers as the most important customers. To improve the diagnosis process of heart patients a joint improvement project including staff from both clinics was completed. Patients were not involved in any way in this improvement process. The result of this joint initiative was that the activities of the physiology and heart clinics were coordinated and integrated into one process. The outcomes for patients included shortened waiting times and quicker diagnosis. The improved quality of the service was also stated by the staff, but evidence for this statement was lacking.

### Lean tools and techniques to enhance value creation

In addition to VSM, several other Lean tools and techniques were implemented at the case organisations. The examples of Lean techniques that were implemented in all three cases were 5S, system for continuous improvement, visualisation of performance data and standardized work. For example, care centre Beta introduced 5S and a standardized treatment trolley in doctors' rooms. The benefit was that doctors could receive and examine patients in different rooms, didn't spend time on unnecessary searching, and could pass the responsibility for organizing and refilling the treatment trolleys to other people. Another example was organisation of daily improvement work. In all three cases systems for capturing and implementing staff ideas were developed. The majority of improvements focused on eliminating daily problems and irritation moments.

## DISCUSSION AND IMPLICATIONS

In this section we discuss three major issues in relation to the application of Lean production in healthcare. First, we point to the absence of patients in the specification and detection of value in Lean healthcare. Second, while Lean production has been shown to have many advantages, we discuss its limitations. Third, we suggest how Lean healthcare can be complemented with an SDL perspective to move forward in the pursuit of better care.

### Specifying value in Lean healthcare

One of the most commonly repeated reasons for why Lean production is beneficial to healthcare is the way that the concepts focus on value for customers. Our investigations show however that this is a truth with limitations. In fact, none of the case organisations actually involved patients in the process of specifying value. Value was specified solely by the staff

and in the form of an opposition – what is not waste must be value.

While this sharply contrasts the evolved perspective on value in the service literature, it must be noted that value is a more complex construct in healthcare than in other settings. Whereas customers in other contexts may have the ability to determine the value which they experience, this is far from being the case in the healthcare context. Although the patient can perceive the value of healing or being met with respect by caregivers, the nature of healthcare is such that good care does not always produce good health outcomes – and vice versa. Value must be co-detected both by patients, who have their preferences and experiential needs, and by the professional who can tell whether treatment is in line with best evidence.

### Limitations of Lean production in healthcare

From the SDL perspective Lean production represents a Goods-Dominant Logic (GDL), where the value is primarily created in the healthcare provider's sphere, not in the patient sphere (Grönroos and Ravald, 2011). From the GDL perspective the healthcare provider and patient spheres are separated and interact only to a very limited extent: healthcare providers are responsible for care services and patients are passive recipients of those services. Our results show that the application of Lean is only limited to the healthcare service provider's sphere and can make an important contribution to the value facilitation processes, but it has limited impact on the patient's value creation process. In the GDL the experiential and contextual aspects of value remain unseen and primarily technical, not functional value, is acknowledged. Since value is presupposed to be created by the healthcare provider, the sphere of the patients is not seen as an arena for value creation and thus ignored.

### Strategies to move forward

In order to achieve not only more timely and efficient care (contribution from Lean), but also more patient-centred care that is respectful of and responsive to individual patient preferences and needs (contribution from SDL), new models for defining value must be added to existing Lean healthcare practices, that both build on the clinical expertise of caregiver and on the patients' preferences and experiences. It is suggested that service development may be carried out from either an inside-out or outside-in perspective (Day, 1994). The former stresses efficiency of services and development through the lens of the organisation. The latter approach views the service through the lens of the customer and focuses on its effectiveness (Gustafsson and Johnson, 2003). Lean production is often applied using an "inside-out" perspective, where it is healthcare staff who specifies patient value based on the organization's lens, not the patient's lens. The service improvements in the Lean healthcare context are being undertaken without actually knowing what the patients want. The organization's lens on the application of Lean is clearly reflected in the effects of Lean reported by the case organisations. The effects achieved included shorter waiting times, increased patient throughput and quicker diagnosis.

An important strategy is therefore to develop systematic approaches to specify patient value that integrate both the organization's and the patient's lens in the application of Lean in healthcare. The service management literature offers a wide range of methodologies such as focus group, diaries and patient blogs that can be used for patient co-creation (Witell et al., 2011).

## CONCLUSIONS

The implementation of Lean production in healthcare inherently means introducing a goods-dominant logic into a complex service system. The healthcare providers specify, measure and create value themselves without involvement from the patient. Consequently, the improvements introduced focus on internal efficiency and have a limited impact on patient experience. Further, activities taking place outside the boundaries of the defined care processes, in the patients' own value network, risk being ignored. While Lean production has demonstrated valuable contributions to healthcare, it is necessary to circumvent these shortcomings by actively involving patients in activities such as specifying value and in value stream mapping. Furthermore, the activities in the patient's sphere need to be visualized and the patient's value creation supported.

## REFERENCES

- Day, G. S. (1994), "The capabilities of market-driven organizations", *The Journal of Marketing* 58(4) 37-52.
- de Souza, L. (2009), "Trends and approaches in lean healthcare", *Leadership in Health Services* 22(2) 121-139.
- Fullerton, R. R., C. S. McWatters and C. Fawson (2003), "An examination of the relationships between JIT and financial performance", *Journal of Operations Management* 21(4) 383-404.
- Grönroos, C. and A. Ravald (2011), "Service as business logic: implications for value creation and marketing", *Journal of Service Management* 22(1) 5-22.
- Gustafsson, A. and M. Johnson (2003), *Competing in a Service Economy: How to Create a Competitive Advantage Through Service Development and Innovation*, San Francisco: Jossey-Bass.
- Krafcik, J. (1988), "Triumph of the Lean Production System", *Sloan Management Review* 30(1) 41-52.
- Merriam, S. B. (1998), *Qualitative research and case study applications in education*, San Francisco: Jossey-Bass.
- Ohno, T. (1988), *Toyota Production System: Beyond Large-Scale Production*, Portland: Productivity Press.
- Poksinska, B. (2010), "The current state of Lean implementation in

healthcare - literature review", *Quality Management in Health Care* 19(4) 319-329.

Pralahad, C. K. and V. Ramaswamy (2004), *The future of competition: Co-creating unique value with customers*, Boston, Mass: Harvard Business School Press.

Radnor, Z. J., M. Holweg and J. Waring (2012), "Lean in healthcare: The unfilled promise?", *Social Science & Medicine* 74(3) 364-371.

Rother, M. and J. Shook (1998), *Learning to see: value stream mapping to create value and eliminate muda*: The Learning Enterprise Institute.

Shah, R. and P. Ward (2003), "Lean manufacturing: context, practice bundles, and performance", *Journal of Operations Management* 21(2) 129-149.

Spear, S. (2005), "Fixing health care from the inside, today", *Harvard Business Review* 83(9) 78-91.

Vargo, S. and R. Lusch (2008), "Service-dominant logic: continuing the evolution", *Journal of the Academy of Marketing Science* 36(1) 1-10.

Vargo, S. L. and R. F. Lusch (2004), "Evolving to a new dominant logic for marketing", *Journal of Marketing* 1-17.

Witell, L., P. Kristensson, A. Gustafsson and M. Löfgren (2011), "Idea generation: customer co-creation versus traditional market research techniques", *Journal of Service Management* 22(2) 140-159.

Womack, J. and D. Jones (1996), *Lean Thinking: Banish Waste and Create Wealth in Your Corporation*, New York: Simon & Schuster.

Young, T. and S. McClean (2008), "A critical look at Lean Thinking in healthcare", *Quality and Safety in Health care* 17(5) 382-386.

# VALUE, VALUES AND SUSTAINABILITY: A CONCEPTUALISATION

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## ABSTRACT

When focusing on customer value, scholars address different value outcomes (Mele 2009; Ng, Smith, 2012; Gummerus 2012). In this paper, we question whether these conceptualisations are comprehensive enough to grasp the value phenomenon in sustainability domain or if something is missing. Based on the literature review and the empirical research, we offer a conceptualisation of value outcomes based on four categories: 1) “use value”; 2) “option value”; 3) “existence value”, 4) “bequest value”. This value conceptualisation offers two contributions to the literature: 1) including not only a utilitarian view of the phenomenon and 2) considering the time and social context.

## INTRODUCTION

When focusing on customer value, scholars address different value outcomes (Mele 2009; Ng, Smith, 2012; Gummerus 2012). A shift in value conceptualisation has moved value-in-exchange to value-in-use as a focal concept to be analysed (Vargo and Lusch, 2004; Grönroos, 2008). More recently, value-in-context (Chandler and Vargo, 2011) has been proposed to emphasise that even if value emerges from the use, it is determined in the context of the beneficiary’s life. Using a phenomenological view, some authors speak of value-in-experience (Helkkula et al., 2012), where the unit of value is the subjective experience (Pralhad, Ramaswamy 2004; Mele, Polese, 2011).

In this paper, we question whether these conceptualisations are comprehensive enough to grasp the value phenomenon in sustainability domain or if something is missing.

Although in the context of marketing research, Gummesson (1994) was one of the first academics within service research to introduce “ecology” as a dimension of quality, only in recent years have some researchers become interested in understanding value creation processes within the sustainability domain (Enquist et al., 2011). Sustainable development can be defined as “meeting the needs of the present without compromising future generations’ abilities to meet their own needs” (World Commission on Environment and Development, UN 1987). In this sense, sustainability strategies are incompatible with the deterioration of heritage and natural resources, with poverty and economic decline and with the lack of recognition of rights and equal opportunities. Human values (such as principles, ethics, and ideals) drive sustainable improvements. Edvardsson et al. (2006) have highlighted a values-based thinking for companies and consumers, wherein sustainability is conceptualised in five dimensions (Kemp, 2005): ethical, social, nature-philosophic, economic, and legal. The logic of values seems to enable value creation, but it is not clear how these values contribute to a conceptualisation of value outcomes.

This work proposes a conceptualisation of value outcomes by addressing the role of values in sustainability. In pursuing our aim, we offer 4

propositions drawing not only from the managerial literature but also from different research fields linked to environmental studies.

The paper develops as follows: first, we conduct a literature review on value outcomes. Second, we present the research design and analyse the findings through an illustration of value outcomes. Next, we present a conceptualisation of value. We close with some implications.

## VALUE IN LITERATURE: VIEWS ON VALUE

In this section, the literature review allows us to outline some propositions on value concepts (Hart, 2005). We draw not only from the marketing literature but also from other research fields, namely, ecology, environmental economics and ecological economics, to broaden the value debate in sustainability research through cross-fertilisation. This view is in accordance with the proposition being advanced by Edvardsson et al., (2006) that social and economic processes are not only derived from economic aspects but also from the social, ecological, and ethical aspects of value.

### From value in exchange to value in use

Porter (1985) described a concept of value as “the amount of money that a consumer is willing to pay for a resource, product, or service”. Additionally, Anderson and Narus (2004, p.6) mention “the perceived worth in monetary units of the set of economic, technical, service and social benefits received by the customer in exchange for the price paid for a product offering”. These views reflect a conceptualisation of value as something embedded in an offering and exchanged in the market. To question this view, some scholars have analysed the value outcome, recalling Smith and Marx’s contributions, which noted two types of value, different but linked in a dialectical unity: use value and exchange value.

Bowman and Ambrosini (2000) argue that use value is “perceived by the customer” (p. 3) and is based on his/her “perceptions of the usefulness of the product on offer” (p. 4). In contrast, exchange value “is realized when the product is sold. It is the amount paid by the buyer to the producer of the perceived use value” (p. 4). Humphreys and Grayson (2008) also regard use value as belonging to the user and consumption, while exchange value belongs to the sale and to the producer. According to Grönroos (2008), rather than being embedded in goods or services (value-in-exchange), “value is created when customers use goods and services” (2008 p. 303). The nature of value in use emerges when a consumer feels better (Grönroos, 2011). Value-in-exchange is instead a function of the value-in-use (Ravald, 2001): it is the company’s perspective of the value to a customer, while value-in-use is the customer’s perspective of the value.

### Proposition 1

*Value in use (or use value) reflects the benefits from using goods and services (resources)*

### Value: the role of context and experience

Within S-D logic, some scholars move the locus of value creation away from a firm’s output (and value-in-exchange) and towards the value

uniquely determined by a beneficiary, by addressing a phenomenological conceptualisation of value defined as 'value-in-context' (Vargo et al. 2008; Vargo & Chandler 2011). Contexts are where value creation occurs due to the availability, integration and use of a different combination of resources from multiple sources (Ng, Smith, 2012). Value-in-context emphasises the importance of time and place dimensions, network relationships and social institutions (e.g., norms, laws, and meanings) as critical variables in the creation of value. Moreover, the contextual nature of co-created value gives a role not only to the competences of the actors but also to environmental resources, such as social, ecological and governmental resources traditionally considered exogenous to value creation (Vargo et al., 2010). Helkkula et al. (2012) have recently noted:

"The use of the term value-in-context emphasizes the notion that it is possible for service customers to experience value even if they do not use or have not had direct experience of the service or the service provider in question".

The idea of linking value to non-use appears insightful, mainly in the sustainability domain, but some questions arise. How can we conceptualise value arising from non-use? How can we link value in use, value in non-use, value in context and value in experience?

The marketing literature does not offer an answer to these questions.

Non-use value. A look into other disciplines.

Within the environmental research field, Dziegielewska et al. (2009) note that "many goods and service, especially environmental ones, are valued for reasons not related to direct use".

Many studies attempt to widen the traditional evaluation based on the use value attribute of goods and services to consider other benefits enjoyed by consumers. 'Total economic value' consists of two parts: use value and non-use value (Walsh et al. 1984). The non-use value component was proposed by Krutilla (1967) to include elements of value that are unrelated to a current, future or potential use.

According to the original conceptualisation, Weisbrod (1964) proposed that the willingness to pay by users of a park understates the park's value to society because many people expect they may visit the park and are willing to pay for an option that could guarantee their future access. Kutrilla (1967) proposed that many individuals may be willing to pay for the satisfaction derived from the knowledge of the existence and bequest of unique environmental resources to a future generation.

In the first conceptualisations of total economic value, value was simply seen as "the willingness to pay for a good or a service". This old view of value has recently been replaced by a conceptualisation of value as "the level of wellbeing improvement through the provision of goods", where "the human wellbeing is enhanced through the processes and function of ecosystems via ecosystem services". These services are the benefits that humans can enjoy from the ecosystem. In a manner very similar to the S-D logic, Mace et al. (2012) see value to humans as depending on the context and added inputs (which in the S-D logic lexicon are called resources). In other words, the conceptualisation of value moves from money (strictly economic dimension) to benefits (social, economic and cultural dimensions). In this perspective, Walsh, Loomis and Gillman (p. 14

) note that “we will design willingness to pay for the bundle of non use satisfactions as preservation benefits and hypothesize that is separable into option, existence and bequest demands”. These demands are at the basis of option value, existence value and bequest.

Dziegielewska et al. (2009) notice that “goods and services may also be valued for their potential to be available in the future”. These potential future benefits constitute an option value. In other words, an option value is linked to a possible future — yet unknown — use (Pearce and Turner, 1996). According to Bishop (1982), option value exists because consumers are uncertain about their future demand for the resource in question. This type of value depends on information and the level of uncertainty people feel regarding the possible use of goods and services. This knowledge about potential benefits influences the decision of whether to access the resource or turn to an alternative resource.

### Proposition 2

*Option value reflects the benefits linked to a possible future use of goods and service (resources)*

Kutrilla (1985) notes an existence value attributed to environmental goods by subjects without a link to real or potential use but exclusively to their mere existence.

The concept of existence value is therefore related to the “value assigned by the agent in addition to any expected changes in the welfare of the agent dependent on the good’s continued existence” (Aldred, 1994 p. 163). It reflects the benefits that come from simply knowing that a certain good or service exists. According Atfield, recalling Madariaga and McConnell, this type of value is related to the notion of intrinsic value currently found in environmental ethics: “Existence value, which stems from intrinsic motives, reveals a concern about the state of the world. People may care about animals, and they may care about preservation and development of natural areas, without regard to the wellbeing of others. Care about the order of things may cause some people to be worse off when they read about pollution events, such as toxic waste spills, regardless of whether such spills have long run consequences because such events may violate a sense of how the world should be ordered. The environmental ethic is closely linked with the intrinsic motive”. In this perspective, existence value expresses social interest and the social values of people seen not only as consumers but also as citizens (Steven, More and Glass, 1993).

### Proposition 3

*Existence value reflects the benefits that come from knowing that certain goods or services (resources) exist.*

Stevens et al. (1991, p.390) notes that “some people may wish to leave an endowment or bequest to future generations, some may value the knowledge that the resource is available for the enjoyment of others, and some may believe that natural resources have intrinsic value independent of any direct benefit to humans”. In this perspective, bequest value refers to the benefits that come from ensuring that certain goods will be preserved for future generations. It is defined as the value that an individual assigns to a resource considering the use that could be made of it by his/her heirs

in the future (Kutrilla 1985). Bequest value is connected to existence value but with the purpose of creating value for the next generations or, in other words, to ensure that future generations will enjoy the same environmental benefit in the years to come.

This non-use value reflects the “moral” or philosophical reasons for environmental protection, unrelated to any current or future use. It is related, for example, to the scientific community and the value that arises from the knowledge of the continued existence of species, habitats and ecosystems.

#### Proposition 4

*Bequest value reflects the benefits from knowing that future generations will enjoy the benefits from goods and services (resources).*

## RESEARCH DESIGN

### Method

Our research objective is to offer a conceptualisation of value by exploring the four propositions. This research adopted an emergent, flexible, abductive process, oscillating between theoretical insights and empirical work (Dubois and Gadde, 2005). We follow the methodological approach suggested by Helkkula et al. (2012) and use qualitative inquiry and narrative methods to illustrate the consumers’ views on value outcomes.

“Narrative methods offer one illustration of a category of research approaches that interpret and make sense of human experience by listening to, collecting, and analysing stories...Narratives reveal the individual’s retrospective sense making of human experiences and enable the researcher to illuminate the implicit — as well as explicit — meaning of a particular phenomenon (Helkkula et al., 2012, p.63)”.

### Context

Our research context was fair trade consumption. We investigated the consumers of Altromercato, the first central import fair trade consortium in Italy and the second in the world. Fair trade is an international trade consortium based on a chain of importers, distributors and retailers. Altromercato’s value propositions encompass food, wellness, finance, home, clothes, toys, travel and others. The company’s offerings mainly come from Latin America, Asia and Africa, where, according to the criteria provided by fair trade organisations and defined by WFTO (World Fair Trade Association), the Consortium maintains direct trade relations with approximately 150 organisations that aggregate tens of thousands of farmers, craftsmen and partners to ensure the payment of a fair price, a long-term and transparent relationship, and interest-free pre-financing.

Altromercato’s offerings are distributed through a network of shops and also at several supermarket chains and health food stores. It is a values-based company with strong principles of equity, sustainability and solidarity. The company’s values include respect for human rights; support of the dignity and right to the future for each person; creation of economic relations that are equal, direct and continuous; honesty and transparency; respect for and promotion of environmental sustainability; and a commitment to information to spread culture between the producers, their communities

and conscious consumers.

## Data collection and analysis

We collected data through 20 interviews, allowing people to tell their stories of the fair trade experience. We were interested in understanding how respondents make sense of their value outcomes in a definite context, with the acknowledgement that interviews are social constructions of the respondents' sense making of their experiences (Helkkula et al., 2012). Stories were used to explore the value outcomes. Some questions guided the interviews:

1) Do you know Altromercato? Tell us what you know and think about its value propositions.

2) Do you buy Altromercato offerings? Tell us why you buy them and which benefits you experience.

Two researchers transcribed each narrative in separate documents. Each researcher reviewed all the narratives to gain an understanding of the stories. We compared our views during five meetings to develop a shared understanding. By using content analysis, the researchers were able to interpret meaning from the content of the text data. Content analysis is "a research method for the subjective interpretation of the content of text data through the systematic classification process of coding and identifying themes or patterns" (Hsieh & Shannon, 2005, p.1278 ). We adopted a directed content analysis, as the research begins with propositions as guides for the initial codes. These codes are refined during the data analysis, as Hsieh, Shannon, (2005, p. 1286) note, "The goal of a directed approach to content analysis is to extend conceptually a theoretical framework". Furthermore, we followed Guba and Lincoln (1994)'s advice to ensure the trustworthiness of the findings.

## ILLUSTRATION OF VALUE OUTCOMES

We use narrative data to illustrate the four propositions. Of course, not all of the narratives focus on the four propositions; people told their stories and focused on certain themes or aspects. However, in totality, the narratives related to the different value outcomes that characterise the propositions and that emerged in the literature reviews. The understanding of the narratives contributes to a better discernment of the value outcomes.

### Use Value

*Proposition 1 Value in use (or use value) reflects the benefits from using goods and services (resources).*

Consumers buy Altromercato offerings for several reasons: the quality of products and services, the origins of the raw material used in the products, and the values the company pursues. Customers benefit from the usage of the goods and services in several ways according to their needs. The application and integration of these resources is done in the beneficiary's

life context, also reflecting the customers' values. From the consumers' stories, a high commitment emerges to fair trade consumption and the company.

The consumers experience Altromercato's value propositions also by participating in specific events that the company organises to promote its activities and values. People become so much a supporter of the company as to decide to act as a volunteer in a shop or in a project.

*I am a very satisfied consumer of these products. I firmly believe in Altromercato's initiatives, and the relationship with this Consortium is important for me. I really like talking with other people especially about the initiatives promoted by Altromercato. I think that the products can be sold on their own because they are very good and beautiful, but we have to tell stories and contribute in spreading fair trade values with passion. This is the best way to involve others. My commitment to these initiatives has always been high (Female; interview n 5).*

*I think that we all have to share information not only about the products and their goodness but also on what we can do through buying them. In this way, consumers can also understand why these products are more expensive than others. Not only because they are good but because part of the price that we pay is intended to improve the quality of life of other people. (Female; interview n 10)*

#### Option value

*Proposition 2: Option value reflects the benefits linked to a possible future use of goods and services (resources).*

Some consumers show a desire to purchase Altromercato products and services, but they cannot buy them due to their unavailability in their life context. The narratives refer to a hope to acquire fair trade offerings in the future. This hope generates a sense of positive feelings towards Altromercato. Positiveness is also addressed through the promoting of Altromercato events to people's family and friends (also by using the Facebook page of the company). An imaginary possible (future) experience emerges.

*I have known these products for several years. I have always been very interested in ethical and social issues. I bought these products, and I was a volunteer in a shop; then, I moved to another city, and I was not able to do this again. However, I am interested in promoting these causes in my family and among my friends. In the future, I would like to be more active as I have been in the past. (Female; interview n 16)*

#### Existence value

*Proposition 3: Existence value reflects the benefits that come from knowing that certain goods or services (resources) exist.*

Consumers show a high commitment to Altromercato's values. The company's stories of social aid attract and interest people, often before the attention and the buying of their goods and services.

The narratives show that people make sense of their experience with Altromercato not only by using its offerings but also by knowing that Altromercato exists and works to help others in less-developed countries. This generates a deep sense of wellbeing for people. Specific examples are that Altromercato allows the development of new knowledge regarding social and ethical themes, promotes the diffusion of ethical and social standards and behaviours and helps the community and their partners to grow.

Strong engagement in social, cultural and environmental issues by Altromercato can generate positive feelings, as the consumers experience being part of something greater than simply consuming goods and services. The idea of the others' benefits and wellbeing as well as the company's behaviour and promise enter into the evaluation of the people's experience.

*I think it should give more space to the other people's voice; I am very happy about the diffusion of this social phenomenon. (Male; interview n 8)*  
*I am not a particularly active consumer, but I am very interested in information and initiatives provided by Altromercato and especially in the stories of social support that are behind each offering. (Male; interview n 19)*

*I'm not interested in politics. I'm glad that there are organisations such as Altromercato mainly because it is the only way for those like me, not involved politically, to express social behaviour and contribute to the wellbeing of other people. In this way, I feel coherent with my principles. (Female; interview n 18)*

Bequest value

*Proposition 4: Bequest value reflects the benefits from knowing that future generations will enjoy the benefits from goods and services (resources)*

Some narratives show a sense of wellbeing arising from the knowledge that other people in the future could benefit from certain resources thanks to Altromercato's practices. This vision is close to existence value, but it widens the positive feeling around a resource from current existence to the availability to the community in the years to come. The idea of the others' benefits and wellbeing is coupled with the idea of the future. The context of the resources' use is not now, and the beneficiary of the resources' value in use is not the interviewee, but he or she communicates a sense of wellbeing from the knowledge of the future possibility. The experience dimension is based not on a concrete event but on an imaginary level.

*I firmly believe in Altromercato's initiatives. I do not know why I am so involved. Someone said that charity is also an act of selfishness. However, I am happy to contribute to the other people's wellbeing. (Female; interview n 11)*

*I am interested in the “world, fairness and justice” issue. I do it because I’m always careful to defend the weakest, and fair trade seems to be the best solution: it is not charity but is a way to allow less-developed countries to evolve in the future and exploit their own resources. (Female; interview n 9).*

## CONCEPTUALISING VALUE AS A MULTIDIMENSIONAL EXPERIENCE

The understanding of the narratives contributes to a better definition of the value outcomes. Illustrations of the propositions focus on different types of value: use and non-use value. Both concepts are important to analyse value as an economic, social and environmental issue. The following narratives show the multiple sides of value in the sustainability domain.

*Altromercato offerings have a double aim: they are good for my health; they are organic and healthy products, At the same time, they contribute to others’ welfare because fair trade promotes the economic, social and environmental performance of less-developed countries. (Female; interview n 3)*

*Buying Altromercato offerings, I feel coherent with my values and, at the same time, I know that paying a higher price, we help less-developed countries to get out from the state of exploitation in which they are, and we do this eating, drinking or wearing high-quality and original products”. (Female; interview n 10)*

Based on the literature review and the empirical research, we offer a conceptualisation of value outcomes based on four categories:

- 1) “use value”, that is, the benefits/sense of wellbeing arising from the current use of resources;
- 2) “option value”, that is, the benefits/sense of wellbeing emerging from (the knowledge of) the possible future use of a resource;
- 3) “existence value”, that is, the benefits/sense of wellbeing deriving from the knowledge of the existence of a resource;
- 4) “bequest value”, that is, the benefits/sense of wellbeing deriving from the knowledge of leaving a resource to future generations.

This value conceptualisation offers two contributions to the literature: 1) including not only a utilitarian view of the phenomenon and 2) considering the time and social context.

Broadening the concept of value, the unit of analysis is not the product or service but the whole experience through which a person lives during a set of interactions with a supplier or network partners (Carù, Cova 2007). We moved from a utilitarian conception (based on products and services’ use value) of consumption to a subjective “activity that involves a production of meaning” with symbolic and emotional implications (Carù, Cova 2007, p. 4) through material and immaterial resources provided by the company (Borghini, Carù, 2008). Our conceptualisation of value outcomes offers a wider view on value-in-experience, in which experience can be framed as a general concept comprising not only the use of a resource but the knowledge of something related to that resource. Such knowledge

can involve cultural and behavioural changes that influence personal development and wellbeing. Benefits are seen in a deeper meaning: the one of wellbeing.

In this perspective, consumers construct and make sense of the experience in terms of 1) doing and 2) knowing. The utilitarian dimension of doing (coming mainly from use value) is coupled with the aware dimension of knowing (coming mainly from non-use value). Value in experience contains (and make sense) of both of these dimensions.

Furthermore, our study allows us to broaden the value conceptualisation into two dimensions: time and (social) context. According to the time dimension, we take into consideration the 'now' but also the 'future'. When evaluating their experience, people consider the current availability, integration and use of resources but also the long-term effects of their practices and perceptions. The future availability and use of resources enter into the value in experience. For example, consumers evaluate Altromercato's offerings by considering the future impacts of the company's value proposition and practices.

Referring to the social context dimension, we consider not only where value creation happens (and the current service context, but — in line with Helkkula et al. (2012) — the broader life-world contexts and who is involved in the evaluation. The 'self' dimension is linked to the idea of the 'others' (or community or society). Individual experience of value depends on the benefits and wellbeing of current and future 'others'. This is linked to the role of social values in shaping value creation processes and value outcomes. Non-use value is influenced by human values, namely, not the utilitarian value but the ethical, moral, environmental and social values. This is in line with Edvardsson et al. (2012)'s view of value and values in sustainability but expands their view in positioning value and values from an individual level (the single evaluates) to a social level of value judgment (a community or society makes an evaluation).

By adopting this conceptualisation, we agree with Nicholls (2002), who claims that in recent years, there has been a shift from self-centric consumption to values-centric, implying that consumers will seek to satiate values that encompass the self as well as others.

Our study supports some recent works (Sebastiani et al. 2012) on ethical consumption defined as the act of purchasing products that have additional attributes (e.g., social, environmental, political, health, etc.) in addition to their immediate use-value to signify commitment to the purchaser's values and/or to support changes in market practices. A process of values resonance (Ng, Smith, 2012) occurs and influences value in experience in the double dimension of the individual as well as the social construct.

## IMPLICATIONS

Our conceptualisation of value in the sustainability domain enriches current studies of value outcomes (Gummerus, 2012; Helkkula et al., 2012; Ng, Smith, 2012). We address the multiple value outcomes from which value in experience arises.

Scholars should see the multiplicity of value and address each item and the interrelation among the items. Value in experience should be framed as a core category in the understanding of socially constructed value

creation processes. Further research should more thoroughly investigate the elements of value in experience here proposed: use value and non-use value as value categories and time and social context dimensions. The proposed conceptualisation should guide research conducted in other contexts of sustainability where ethical, social and moral issues are not as strong as in fair trade consumption.

This study has implication also for managers. The formulation of a value proposition should take into account multiple value outcomes. A company should foster a process of value resonance in the sense that the company's values and value propositions should be in accordance with their customers' values. Managers should also understand how consumers make sense of their experience and how values and value propositions influence the whole value creation.

## REFERENCES

Aldred, J., (1994), "Existence value, welfare and altruism", *Environmental Values*, 3 (4) 381–402.

Anderson, J. C. and Narus, J. A. , (2004), "Business Market Management: Understanding, Creating, and Delivering Value", Pearson Prentice Hall, New Jersey

Attfield, R. (1998), "Existence value and intrinsic value", *Ecological Economics*, 24 163–168

Bishop, R. C., (1982), "Option Value: An Exposition and Extension", *Land Economics*, 58 (1)11-15

Bowman, C. and Ambrosini, V. (2000), "Value Creation Versus Value Capture: Towards a Coherent Definition of Value in Strategy", *British Journal of Management*, 11 (1) 1-15

Carù, A. and Cova, B. (2007), "Consuming Experience", Routledge, Oxford

Chandler, J. and Vargo, S. (2011), "Contextualization and value-in-context: How context frames exchange", *Marketing Theory*, 11 (1), 35-49

Dubois, A. and Gadde, L-E. (2002), "Systematic Combining - An abductive approach to case research", *Journal of Business Research*, 55 553-560

Dziegielewska D., Tietenberg T. and Seo, S.N., (2009), "Total economic value". In: *Encyclopedia of Earth*. Eds. Cutler J. Cleveland

Edvardsson, B., Enquist, B. and Hay, M. (2006), "Values based service brands: narratives from IKEA", *Managing Service Quality*, Vol. 16 No. 3, 230-46

Edvardsson, B. , Tronvoll, B., and Thorsten Gruber, (2011), " Expanding understanding of service exchange and value co creation.", *Journal of the Academy of Marketing Science*, 39(2)327-339.

Enquist, B. , Edvardsson B. and Sebhatu S. P. (2007) “Values-based service quality for sustainable business”, *Managing Service Quality*, 17 (4) 385-403

Grönroos, C. (2008), “Service logic revisited: who Creates Value? And who co-creates?”, *European Business Review*, 20 (4) 298-314

Grönroos, C. (2011), “A service perspective on business relationships: The value creation, interaction and marketing interface”, *Industrial Marketing Management*, 40, 240-247

Guba, E. G., and Lincoln, Y. S. , (1994), “Competing paradigms in qualitative research”. In N. K. Denzin & Y. S. Lincoln (Eds.), *Handbook of qualitative research* (pp. 105-117), Sage, London

Gummerus, J. (2013), “Value creation processes and value outcomes in marketing theory: Strangers or siblings?”, *Marketing Theory*, 1-29

Gummesson, E (1994) “Making Relationship Marketing Operational”, *International Journal of Service Industry Management*, 5 (5), 5-20

Helkkula, A. , Kelleher, C. and Pihlström, M. , (2012) “Practices and experiences: challenges and opportunities for value research”, *Journal of Service Management*, 23 (4), 554 – 570

Hsieh, H-F and Shannon, S.E. , (2005), “Three Approaches to Qualitative Content Analysis”, *Qualitative Health Research*, 15 (9) 1277-1288

Humphreys, A. and Grayson, K. (2008), “The Intersecting Roles of Consumer and Producer: A Critical Perspective on Co-production, Co-creation and Prosumption”, *Sociology Compass*, 2

Kemp, P. (2005), “Va” rldsmedborgaren” (The Global Citizen), Daidalos, Goteborg.

Krutilla, J. V. , (1967), “Conservation Reconsidered”, *American Economic Review*, 57 (4) 777-86.

Mace, G.M. ,Norris, K. and Fitter, A.H., (2012), “Biodiversity and ecosystem services: a multilayered relationship”, *Trends Ecology Evolution*, 27(1) 19-26

Mele, C., (2009), *Value logic in networks: resource integration by stakeholders* Sinergie, n. 16.

Mele, C. and Polese, F. ,(2011), “Key dimensions of Service Systems in Value-Creating Networks”, in *Service Science: research and innovations in the Service Economy*, 37-5

Nicholls, A. J., (2002), “Strategic Options in Fair Trade Retailing”, *International Journal of Retail and Distribution Management*, 30 6–17

Porter, M. (1985), “Competitive Advantage: creating and sustaining

superior Performance”, Free Press, New York

Prahalad, C.K. and Ramaswamy, V, (2004), “The future of competition: co-creating unique value with customers”, *Strategy and leadership*, 32 (3) 4-9

Ravald, A. (2001), “ A view of value – the customer value process”, in Breivik, E., Falkenberg, A.W. and Gronhaug, K. (Eds.), *Rethinking European Marketing, Proceedings from the 30th EMAC Conference*, Bergen, Norway

Sebastiani, R. Montagini, F. and Dalli, D (2012), “Ethical Consumption and New Business Models in the Food Industry. Evidence from the Eatly Case”, *Journal of Business Ethic*

Ng, Irene CL and Smith, L (2012) “An Integrative Framework of Value” *Review of Marketing Research* 9 207 - 243

Stevens, T.H., More T. A. and Glass, R.J. , (1993), “Measuring the Existence Value of Wildlife: Reply”, *Land Economics*, 69 (3) 309-312

Vargo, S. L., Maglio, P. P., and Akaka, M. A. (2008), “On value and value co-creation: A service systems and service logic perspective”, *European Management Journal*, 26(3) 145–152

Vargo, S.L. and Lusch, R.L. (2004), “Evolving to a New Dominant Logic for Marketing”, *Journal of Marketing* 68(1): 1–17

Walsh, R.G., Loomis, J.B. and Gillman, R.A., (1984), “Valuing option, existence, and bequest demand for wilderness”, *Land Economics* 60 (1) 14–29

Weisbrod, B., (1964), “Collective-Consumption Services of Individual-Consumption Goods”, *Quarterly Journal of Economics*, 78 (3):471-7

# WEB PRACTICE TO ENHANCE VALUE CO-CREATION. FOCUS ON HEALTHCARE CONTEXT

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## ABSTRACT

This work aims to define how interactive health technologies (e.g. health communities, hospital website, and health application for smartphone) enable value co-creation processes (Vargo and Lusch 2008) in the healthcare context.

Drawing from a practice-based approach (Reckwitz 2002) grounded on the S-D logic perspective, this work highlights the main elements of the value co-creation process (actors, resources, activities for practice/service development and value) in the health web context and argues that web tools, although working in different ways, enable the co-creation of functional, social, emotional and epistemic value, not only for the personal use of the focal web user but also for the use of others.

## INTRODUCTION

The enhancement of healthcare in terms of access, quality and productivity is recognised by scholars and practitioners as a global research priority (Ostrom et al. 2010).

Many researchers (McColl-Kennedy et al. 2012; Gruber and Frugone 2011) consider the engagement of patients in the health care service as the main condition for the successful delivery of the service itself. This is consistent with the idea that in highly participative services - as health care can be defined - the outcome depends on the quality of the collaboration between service providers and customers.

In the light of these facts, we consider the internet and interactive health communication technologies (IHCTs) (e.g. virtual communities, social networks, blogs, hospital web portals, and smartphone applications) the suitable channel to engage patients and to stimulate the process of value co-creation in the health care service sector (Caridà, Colurcio and Melia 2012).

IHCTs are becoming a critical success factor for many healthcare organisations (Nambisan and Nambisan 2009), as it enhances their ability to embrace patients as active participants in the creation and delivery of the healthcare service (Nambisan P. 2010), contributing to the more efficient use of the scarce resources (Rahimi and Vimarlund 2007), to the reduction of unnecessary health costs, to the improvement of the health service (Ouschan et al. 2006), as well as, to the creation of new knowledge and ideas (Elg, et al. 2012; Nambisan and Nambisan 2009).

Furthermore, IHCTs enable a paradigm shift from a firm/institution-centric vision to a patient/consumer-centred system (Demiris 2006), where patients, as consumers, are not just an object in medical discourse, but are resource integrators and collaborators in value creation (Vargo and Lusch 2008), for their personal use and and/or for the use of others

(Humphreys and Grayson 2008; Elg et al. 2012). Specifically, the value for others is strictly linked to idea provisioning and knowledge sharing (Witell et al. 2011), and thus to the opportunities to interact and communicate (Gustafsson et al. 2012).

Although, the topic of value creation is becoming increasingly evident in various areas of the healthcare industry (Nambisan and Nambisan 2009), studies on processes, methods and tools to enable value co creation in the healthcare context are often missing (Elg et al. 2012).

This work aims to contribute to filling this gap in the literature deepening how web-based technologies trigger the value co-creation (Vargo and Lusch 2008) in the healthcare context, not only for the use of the focal web users but also for the use of other actors.

In order to do this, we ground on the practice theory to investigate the process aspects (Andersson et al. 2008) of the use of the health web technologies and the value co-creation as practical phenomenon. The work is structured as follows. First, we provide a brief review of the streams of literature that we have identified as pillars. The following section frames the research design. Finally, the empirical findings are presented and discussed.

## LITERATURE REVIEW

This study is focused on three main theoretical streams of research: i) studies on the use of web based tools in the healthcare context; ii) researches on value co-creation from a service-dominant logic (SDL) perspective; and iii) studies on practice theory.

### Web based tools and Healthcare

It is well-known that the use of web technologies is increasing more and more in the healthcare context (Nambisan 2010). Virtual health communities, hospital websites and applications (apps) for smartphones are only some examples of the integration between internet and the healthcare context.

Online health communities are social networks formed or facilitated through electronic media (Eysenbach et al. 2004), that enhance the mutual support and problem solving among participants (Frost, Massagli, 2008), enable professional collaborations (Demiris 2006), and facilitate the sharing of knowledge and experiences (Nambisan P. 2010), as evidenced by the diffusion of communities on rare diseases (Nambisan and Nambisan 2009). Moreover, they are an alternative means of communication between providers and patients that allow an easier and rapid access to healthcare services.

In addition to patients and clinicians, also the healthcare organisations are now more conscious of the importance of the internet tools, such as websites. Indeed, medical information and knowledge converge in the healthcare information portal, bringing together healthcare providers, physicians and patients (Chou and Chou 2002). Users can access general facilities (Randeree and Rao, 2004), as well as a variety of resources,

such as medical literature, physician skills, service platforms, and personal medical data, that make them more responsible for their own choices, simplifying the service provisions.

Furthermore, patients' ability to self-manage their health status is notably improved by the use of smartphone applications (SPAs). They transform a high-performance mobile phone into an assistive device that extends telecare/healthcare into the world outside of the home (Doughty 2011), improving the lives of many people with and without disabilities.

### Value co-creation and practice theory

Value co-creation has become increasingly important in marketing studies, particularly in the context of service-dominant logic (SDL) (Vargo and Lusch 2006; 2008). This perspective recognises that value is fundamentally derived and determinate in use through the integration and application of resources in a specific context (Vargo et al. 2008). According to Korkman et al. (2010), we are confident that practice theory can contribute to S-D logic by understanding how value co-creation process occurs. S-D Logic and practice theory fit naturally when we recognise the resources integration as the fundamental element for the service exchange and for practice development, thereby for the creation of value (Vargo 2010). Practices can be defined as "more or less routinized actions, which are orchestrated by tools, know-how, images, physical space and the subject who is carrying out the practice" (Korkman 2006, p. 27). However, the concept of practices is not restricted to the mere action, since, it involves the subject, the action, the tools and the context in which resource integration occurs.

Practices could vary, from simple activities, such as compliance with service provider/providers and collating information, to complex activities, such as co-learning, actively searching for information and providing feedback (McColl-Kennedy et al. 2012). They can be led by actors and/or by active resources, such as new technologies (Vargo, and Lusch 2008), that can guide actors toward the action, fostering their abilities to develop new practices (Korkman et al. 2010) and to improve the existing ones. Practices are formed as the resources of customers and providers interlink with different contextual elements (Reckwitz 2002). According to a practice based theory, value creation happens when actors do practical things in their life and value is determined by how well resources fit into the practice constellations of customers and by how much these resources improve their practices (Korkman et al. 2010; Korkman 2006;). Similarly, from a SDL perspective, value emerges through the service exchange as the result of the collaboration of many parts, such as, focal actor, potentially other market-facing, public sources, and private sources, as well as customer activities (personal sources) (McColl-Kennedy et al. 2012).

## RESEARCH METHODOLOGY

The work is based on a qualitative research method: the netnography approach. The netnography adapts ethnography research methods to the study of complexities of the contemporary, technologically mediated social world (Kozinets, 2010). As the ethnographic method is particularly favoured in practice theory (Huizing, Cavanagh, 2011), we are confident that also netnography fits with it, enabling researchers to immerse themselves in the web context they seek to investigate.

Furthermore, the choice of netnography is well motivated by its multi-method and adaptable nature. In fact, it combines well with other methods, both online and off, and moves effortlessly from newsgroups to blogs, wikis, virtual worlds, social networking sites, podcasting and mobile online/offline communities (Kozinets, 2010).

Finally, we opted for the case study method (Yin, 2002) as it is consistent with our research purpose that is exploratory, explanatory and descriptive. Data includes previous published researches on the use of health interactive technologies and the analysis of the technical features of the following web tools: i) two online health web communities; ii) a hospital website (H – name of convenience used for privacy reasons), and iii) four health apps (table 1).

**Table 1: Web tools analysed**

Experiences		Description/Main features
Health Community	Patients Like Me (PLM)	Is a patient networking, where members share detailed computable data about symptoms, treatments, and health to learn from the experience of other patients with similar issue and improve their outcomes. The platform includes: 14 disease communities, >156.000 members and a list of >7317 symptoms. Information about the health history of each member is collated in treatments and symptoms reports and hyperlinked to related items of interest to simplify information searching. Browsers to filter patients by symptoms or, treatment and visual displays of personal health data, allow members to track, share and compare their health experience to other patients' experiences. The active dialogue among members, the provision of emotional and social support and the creation and exchange of knowledge fosters positive behavioural change of participants. The 23.5% of PLM members that have declared to exploit the treatments reports to manage in a better way their disease or its symptoms.
	Sermo	Is an exclusive online community for physicians, including >125.000 members and 68 different specialties. Members were ranked based on the number of posts and comments that they had authored that were rated highly by their peers. Sermo allows physicians to discuss new clinical findings, create professional collaborations and learn from their peers to improve patient care. Specific tools, such as diagnosis on demand, encourage physicians to
		solicit and receive immediate insight from their colleagues on a live case. The direct applicability of the information received to clinical practice is recognized, by 75% of the community members, as one of the most important features of Sermo.
HWS	H	Is an Italian centre of excellence for the quality of its services and of its research in oncological diseases. It focuses on web tools to enhance a strategy of proximity to consumers/patients and their families. H website includes: i) many educational spaces, such as "ask the expert", newsletters (with >30.000 registered users), a web magazine (with >350.000 readers every month), web TV and educational cards on specific diseases; ii) a services platform, such as online medical reports (with >5.000 users every month) and second opinions, that simplify the provision of services.
Health apps	Medscape	Helps doctors in their practice by allowing easier access to health information. It includes in three main sections (disease and conditions, clinical procedures and medical news): >4,000 evidence-based articles, >600 step-by-step procedure videos, and > 100 tables and protocols.
	Proloquo 2 go	Is a sophisticated speech synthesiser for people with difficulties in finding or speaking the right word. It uses large, colourful icons on the smartphone screen to generate spoken sentences.
	On track diabetes	Is an assistive tool for managing diabetes by tracking various items, such as, blood glucose, food, medication, blood pressure, pulse, exercise and weight.
	Mobile energy balance	Assistive tool to self-monitor caloric balance in real time. It provides a database of 750 foods and caloric expenditure for 37 physical activities and allows users to enter their caloric consumption and physical activity (caloric expenditure) throughout the day.

Source: Our elaboration

## FINDINGS

Drawing from S-D logic and practice theory this paper investigates how health interactive technologies enable value co-creation in practices. Table (2) synthesizes this concept, describing for each web tool analysed the main elements of the value co-creation process based on SD-Logic: i) the specific enablers of value co-creation process (resources source and resource integrators, integrable resources and activities for the service/practice development), ii) the potential value co-created, considered as practical phenomenon (e.g., easier access to information, patient empowerment, life quality improvement etc.), that could emerge from resource integration and thus from practice development, iii) the dimensions of the value achievable (functional, social, emotional and epistemic) and iv) the addressees of the value co-created (focal web tools user and/or others).

Web tools and self-generated resource, as knowledge, skills, time, effort etc., that represent the resources available to the focal actors of the

network (e.g. the web tools users), are provided by: i) private sources (PS), such as, self, peers, family and health professionals; ii) market-facing sources (MFS), as web platform providers; iii) public sources (PubS) as health and governmental association, or, most likely, through the service provision of all of these, often simultaneously (Vargo, Lusch, 2011, pp. 184). The main resource integrators involved in exchange relationships are focal web service providers (e.g. web tools), focal web tools users (e.g. users, patient, health professionals, peers) or/and other actors (family, peers, health professionals, friends etc.). Activities for service/practice development are the active doing of focal actors. We have identified and labelled five practices enabled by tools investigated: searching and collating information, connecting, training, co-production and behavioural changing. Such practices are the result of the resources integration process and represent the activities through which actors co-create value for oneself and for others. For example, the practice of connecting in the Sermo community involves the dialogue with peers and enables the opportunity to receive immediate insight on live cases as well as to share experiences and knowledge. It contributes not only to empowering doctors, improving their knowledge, but produces positive effects on their way of approaching and caring for patients and thus on the final value gained by patients. The content of these practices (table 2) changes according to the technical characteristics of the specific tools and to the needs and capabilities of the users. The use of tools analysed could produce many kinds of value, that, as underlined in the previous example, are available not only for the personal use of focal actors but also for the use of the other ones. Based on a multidimensional approach (Sheth et al. 1991) and according to previous study focused on the topic of value in on line (Lee and Overby 2004; Sicilia and Palazon 2008) and off line context (Sheth et al., 1991; Sweeney and Soutar, 2001), we define value as a complex construct composed by four interrelated dimensions: i) functional, that is related to the ability of the product/service to fulfil its functional purposes (Sheth et al. 1991). It includes service excellence, price and time savings (Lee and Overby 2004) and the ease and speed of achieving a task effectively and conveniently (Pura 2005); ii) social, that is related to the benefits derived through group interactions as the emotional support, the self-esteem and the social enhancement (Sicilia and Palazon 2008); iii) emotional, that is related to the utility derived from the affective states - confidence, excitement or fear - (Sheth et al. 1991) generated by a product or a service (Sweeney and Soutar 2001; Pura 2005).; and, iv) epistemic, that is related to the capacity to arouse curiosity, to provide novelty, and/or to satisfy a desire for knowledge (Sheth et al. 1991; Pura 2005). It includes the concept of learning as the gaining of knowledge (Bourdeau et al. 2002).

Table 2: Service and practice convergence: the health apps, the hospital web site and the health communities' cases

Resource source and resource integrators	Resource	Activities for service practice development	Potential Value co-created	Value dimensions	Value addresses	
					focal user	other
MFS - focal web service providers: Smartphone apps	<ul style="list-style-type: none"> <li>☒ Search engine</li> <li>☒ Information on medical topics etc</li> <li>☒ Integrated tools to self-monitor and</li> </ul>	<ul style="list-style-type: none"> <li>☒ Searching and collating information</li> <li>☒ Connecting: multimedia sharing - text, photos, graphs</li> <li>☒ Training: users education</li> </ul>	Easy access to information Knowledge	Functional	*	
			Learning improvement	Epistemic	*	
			Users empowerment	Emotional	*	

	manage disease: speech synthesisers, diary, camera, alerts, therapies remainder.	<ul style="list-style-type: none"> <li>☒ Co-production: self-monitoring and self-managing health status</li> <li>☒ Behavioural changing: combining therapies</li> </ul>	Better management of the disease	Functional Emotional	*	
PS - focal actors: Users Patients Physicians	<ul style="list-style-type: none"> <li>☒ Knowledge/Skills</li> <li>☒ Effort and time</li> <li>☒ Tools availability</li> </ul>		Life quality improvement	Functional Emotional	*	*
MFS - focal provider: H	<ul style="list-style-type: none"> <li>☒ Search engine/site map</li> <li>☒ Health web-magazine</li> <li>☒ Health educational cards</li> <li>☒ Multimedia platform to share contents</li> <li>☒ Newsletter</li> <li>☒ Online medical report</li> <li>☒ Second opinion</li> <li>☒ Book and pay</li> <li>☒ Ask the expert</li> </ul>	<ul style="list-style-type: none"> <li>☒ Searching and collating information</li> <li>☒ Training: staff and patient education</li> <li>☒ Co-production: self-managing health status, e.g. medical reports download, self-diagnosis by tests and on line booking and paying physical examinations</li> <li>☒ Connecting: expert consultation</li> <li>☒ Behavioural changing: combining complementary therapies</li> </ul>	Easy and direct access to scientific, certified, and customised information	Functional	*	
			Following health instructions and self-manage health data	Functional	*	*
			Easy and direct access to services' platform	Functional	*	
			Cost saving	Functional	*	*
			Time saving	Functional	*	*
			Patient empowerment	Emotional	*	*
PS - focal actors: Users Patients Physicians	<ul style="list-style-type: none"> <li>☒ Knowledge/Skills</li> <li>☒ Effort and time</li> <li>☒ Tools availability</li> </ul>		Simple and better disease management	Functional Emotional	*	
			Knowledge creation and sharing	Epistemic Social	*	
PS - other actors: Peers Friends, Family	<ul style="list-style-type: none"> <li>☒ Knowledge/Skills</li> <li>☒ Effort and time</li> <li>☒ Tools availability</li> </ul>		Patients and clinicians direct relationship	Functional Social Emotional	*	
			Life quality improvement	Functional Emotional	*	*
MFS - focal provider: Patient Like Me web platform	<ul style="list-style-type: none"> <li>☒ Search engine</li> <li>☒ Browser to filter patient (symptoms/ treatment)</li> <li>☒ Treatments/symptoms report</li> <li>☒ Visual displays of personal data</li> <li>☒ FAQ</li> <li>☒ Comments/posts</li> <li>☒ Chat/Forum</li> </ul>	<ul style="list-style-type: none"> <li>☒ Searching and collating information</li> <li>☒ Training: patient education</li> <li>☒ Co-production: self-managing health status, e.g. following health instructions; tracking, sharing and comparing personal health data</li> <li>☒ Connecting: active dialogue with peers, e.g. giving/receiving support, knowledge-experience sharing.</li> <li>☒ Behavioural changing: modifying disease/symptoms management; positive attitude to the disease</li> </ul>	Easy and direct access to info	Functional	*	
			Knowledge creation and sharing	Functional	*	*
			Learning improvement	Functional	*	
			Better and simplest management of the disease	Functional	*	*
PS - focal actors: Users Patients	<ul style="list-style-type: none"> <li>☒ Knowledge/Skills</li> <li>☒ Effort</li> <li>☒ Time</li> <li>☒ Tools availability</li> </ul>		Patient empowerment	Functional	*	*
			Emotional and social support	Functional Emotional	*	*
PS - other actors: Peers Friends, Family	<ul style="list-style-type: none"> <li>☒ Knowledge/Skills</li> <li>☒ Effort</li> <li>☒ Time</li> <li>☒ Tools availability</li> </ul>		Life quality improvement	Functional Emotional	*	*
MFS - focal provider: SERMO web platform	<ul style="list-style-type: none"> <li>☒ Search engine</li> <li>☒ Link with American Medical Association</li> <li>☒ Ask RX</li> <li>☒ Sermo discussion</li> <li>☒ Comments/pos</li> </ul>	<ul style="list-style-type: none"> <li>☒ Searching and collating information</li> <li>☒ Training: health practices and physician knowledge improvement</li> <li>☒ Co-production: new treatments/therapies/health service</li> </ul>	Easy and direct access to knowledge	Functional	*	
			Direct applicability of the information received to the health practice	Functional	*	*
			Knowledge creation and	Functional Social	*	*

	ts <input checked="" type="checkbox"/> Second opinion <input checked="" type="checkbox"/> Diagnosis on demand <input checked="" type="checkbox"/> Forum/Chat <input checked="" type="checkbox"/> Job listing	developing <input checked="" type="checkbox"/> Connecting: active dialogue with peers, e.g. receiving immediate insight on live case, sharing experience and knowledge, creating professional collaboration <input checked="" type="checkbox"/> Behavioural changing: improving self-esteem; social enhancement; modifying management approach to patients.	sharing				
PS - focal actors: Physician	<input checked="" type="checkbox"/> Knowledge/ Skills <input checked="" type="checkbox"/> Effort <input checked="" type="checkbox"/> Time <input checked="" type="checkbox"/> Tools availability		Patient care improvement	Functional Emotional	*	*	
			Doctor empowerment improvement	Emotional Social	*		
			Learning improvement	Epistemic	*	*	
			Economic gain	Functional	*		
PubS - Health and governmental association	<input checked="" type="checkbox"/> Knowledge/ Skills <input checked="" type="checkbox"/> Effort and time <input checked="" type="checkbox"/> Tools availability		Growth of professional collaboration opportunities	Functional Social Emotional	*	*	
			Time saving	Functional	*	*	

Source: our elaboration

## DISCUSSION

Practice theory is a useful conceptual approach to describe the value co-creation process. It has allowed us to describe the different kind of value co-created by analysing the practices that are carried out in the healthcare context through the use of the health interactive technologies.

Drawing on a set of relevant case studies and examples, we argue that the tools analysed, although in different ways, enable the co-creation of value. They allow for interactions with multiple and diverse actors, enabling them to share their resources collaboratively by adapting their processes to each other. Specifically, we have observed that the kind of practices implemented, the value co-created (e. g., functional, social, emotional and epistemic) and the opportunities to co-create value for oneself, but particularly for others, are leading by two main conditions. First, the well fit between tools' resources and the patient/users practices (Korkman et al. 2010). Second, the technical characteristics of web tools, such as the type of activities supported and the kind of interactive relationship (Gustafsson, et al. 2012) allowed. It is important to note that the absence of the first condition value co-creation doesn't occur and value co-destruction emerges (Echeverri and Skålén, 2011). For example, in the health care context, it can occur that some patients engaged in the service co-creation are unable to use their resources, and/or the firm's resources (as interactive tools) as the firm expected, simply because they feel sick, they are too emotionally involved and/or because they are not familiar with the use of new technologies. In this view, value emerges in practical constellations (Korkman, 2010; Schatzki 2001) and is enabled by web technologies, through the active doing and the resources integration. Recalling the nine fundamental premise of SD-Logic (FP9) (Vargo, Lusch, 2008), we consider health web technologies as resource integrators that exist to integrate and transform resources into complex services that are demanded in the healthcare context.

## MAIN IMPLICATIONS

This work answers to the call of the scientific community (Korkman et al. 2010) to expand the practice-based approach in a SD-logic context in order to investigate value co-creation as a practical phenomenon. It contributes theoretically and practically in many ways. First, it underlines the multiple approaches to value co-creation in the healthcare context linked with the use of different web based tools. Second, it identifies the different resources and the activities which potentially enhance the co-creation of value. Third, it points out that the practices identified in the present study may vary over time (McColl-Kennedy et al. 2012), depending mainly by the technical characteristic of web tools and by the degree of familiarity of users with new technologies. Fourth, differing from the previous work of McColl-Kennedy et al. (2012), which focused on the co-creation of value for oneself, we argued that web technologies enable the co-creation of different types of value: functional, social, emotional and epistemic not only for our own personal use but also for others. Fifth, we identified new opportunities (tools) for service providers, patients, users and physicians to improve the efficiency, the efficacy and the appropriateness of healthcare service.

## REFERENCES

- Andersson, P., Aspenberg, K., and Kjellberg, H., (2008), "The configuration of actors in market practice", *Marketing Theory*, 8 (1) 67-80.
- Bourdeau, L., Chebat, J.C., and Couturier, C., (2002), "Internet consumer value of university students: E mail-vs.-Web users", *Journal of Retailing and Consumer Services*, 9 61-69.
- Chou, D.C., and Chou, A.Y., (2002), "Healthcare information portal: a web technology for the healthcare community", *Technology in Society*, 24 317-330.
- Demiris, G., (2006), "The diffusion of virtual communities in health care: Concepts and challenges". *Patient Education and Counseling*, 62 (2) 178-188.
- Doughty, K., (2011), "SPAs (smart phone applications) – a new form of assistive technology", *Journal of Assistive Technologies*, 5 (2) 88-94.
- Echeverri, P., and Skålén, P., (2011), "Co-creation and co-destruction. A practice-theory based study of interactive value formation", *Marketing Theory*, 11 (3) 351-373.
- Elg, M., Engström, J., Witell, L., and Poksinska, B., (2012), "Co-creation and learning in health-care service development", *Journal of Service Management*, 23 (3) 328-343.
- Eysenbach, G., Powell, J., Englesakis, M., Rizo, C. and Stern, A. (2004) "Health related virtual communities and electronic support groups: systematic review of the effects of online peer to peer interactions", *BMJ*,

Vol. 328, pp. 1–6.

Frost, J.H., and Massagli, M.P., (2008), "Social Uses of Personal Health Information Within PatientsLikeMe, an Online Patient Community: What Can Happen When Patients Have Access to One Another's Data" *Journal of Medical Internet Research*, 10 (3): e 15.

Gruber, T. and Frugone, F., (2011), "Uncovering the desired qualities and behaviours of general practitioners (GPs) during medical (service recovery) encounters", *Journal of Service Management*, 22 (4) 491- 521.

Gustafsson, A., Kristensson, P., and Witell, L., (2012), "Customer Co-Creation in Service Innovation: A Matter of Communication?", *Journal of Service Management*, 23 (3) 311-327.

Humphreys, A., and Grayson, K., (2008), "The intersecting roles of consumer and producer: A critical perspective on co-production, co-creation and presumption", *Sociology Compass*, 2 (3) 963-980.

Korkman, O., (2006), *Customer Value Formation in Practice: A Practice Theoretical Approach*. Swedish School of Economics and Business Administration No. 155, Helsinki.

Korkman, O., Storbacka, K., and Harald, B., (2010), "Practices as markets: value co-creation in e-invoicing", *Australasian Marketing Journal*, 18 236-47.

Kozinets, R.V., (2010), *Netnography Doing Ethnographic Research Online*, SAGE Publications Ltd.

Lee, E.J., and Overby, J.W., (2004), "Creating value for online shoppers: Implications for satisfactions and loyalty", *Journal of Consumer Satisfaction, Dissatisfaction and Complaining Behavior*, (17) 54-67.

McColl-Kennedy, J.R., Vargo, S.L., Dagger, T.S., Sweeney, J.C., and van Kasteren, Y., (2012), "Health care customer value co-creation practice styles", *Journal of Service Research*, 15(4) 370-389.

Nambisan, P., (2010), *Enabling Consumer-Driven Service Innovation in Health Care: The Role of Online Health Information Technologies (HIT)*. In Nambisan, S. *Information Technology and Product Development Annals of Information Systems*, New York, NY: Springer US.

Nambisan, P., and Nambisan, S., (2009), "Models of consumer value co-creation in health care", *Health Care Management Review*. 34 (4) 344-354.

Nordgren, L., (2009), "Value creation in health care services - developing service productivity: Experiences from Sweden", *International Journal of Public Sector Management*, 22 (2) 114-127.

Ostrom, A., Bitner, M., Brown, S., Burkhard, K., Goul, M., Smith-Daniels, V., Demirkan, H., and Rabinovich. E., (2010), "Moving forward and making

- a difference: research priorities for the science of service”, *Journal of Service Research* 13 (1) 4-36.
- Ouschan, R., Sweeney, J., and Johnson, L., (2006), “Customer Empowerment and Relationship Outcomes in Healthcare Consultations”, *European Journal of Marketing*, 40 (9/10) 1068-1086.
- Pura, M., (2005), “Linking perceived value and loyalty in location-based mobile services”, *Managing Service Quality*, 15 (6) 509-538.
- Rahimi, B., and Vimarlund, V., (2007), “Methods to Evaluate Health information Systems in Healthcare Settings: A Literature Review”, *Journal of Medical Systems*, 31 (5) 397-432.
- Randeree, E., and Rao, H.R., (2004), “E-health and assurance: curing hospital websites”, *International Journal of Electronic Healthcare*, 1 (1) 33-46.
- Reckwitz, A., (2002), “Toward a theory of social practices: a development in culturalist theorizing”, *European Journal of Social Theory*, 5 (2), 243-263.
- Selltiz, C., Wrightman, L., and Cook, S.W., (1976), *Research methods in social relation*, 3rd ed., New York: Holt, Rinehart, & Winston.
- Sheth, J.N., Newman, B.L., and Gross, B.L., (1991), “Why We Buy What We Buy a Theory of Consumer Behavior”. *Journal of Business Research*, (22) 159-170.
- Sicilia, M., and Palazón, M., (2008), “Brand communities on the internet: A case study of Coca-Cola’s Spanish virtual community”, *Corporate Communications: An International Journal*. 13 (3) 255-270.
- Sweeney, J.C., and Soutar G.N., (2001), “Consumer Perceived Value: The Development of a Multiple Item Scale”, *Journal of Retailing*, 77 (2) 203-220.
- Vargo, S.L., (2010), “Practices, systems, and meaning-making: An introduction to the special section on markets and marketing”, *Australasian Marketing Journal*, 18 233-235.
- Vargo, S.L., and Lusch, R.F., (2008), “Service-dominant logic: continuing the evolution”, *Journal of the Academy of Marketing Science*, 36 (1) 1-10.
- Vargo, S.L., and Lusch, R.F., (2011), “It’s all B2 and beyond: Toward a systems perspective of the market”, *Industrial Marketing Management*, 40, 181-187.
- Witell, L., Kristensson, P., Gustafsson, A., and Löfgren, M. (2011), “Idea generation: customer cocreation versus traditional market research techniques”, *Journal of Service Management*, 22 (2) 140-159.

Yin, R., (2002), *Case Study Research, Applied Social Research Methods Series*. Newbury Park: Sage.

# **WHAT DRIVES THE DRIVERS OF CUSTOMER SATISFACTION? UNDERSTANDING HOW ACROSS-CHANNEL PARTICIPATION AND COUNTRY OF ORIGIN AFFECT THE DRIVERS OF CUSTOMER SATISFACTION.**

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Companies have started to focus more on customer journeys and what happens across customers' full experience with a company in order to better manage customer relationships. In a world characterized by global competition in the service sector, brands such as Starbucks, IKEA and McDonalds bring their concepts to different countries and cultures around the globe. This poses a great challenge for companies, as replicating success across different cultural contexts requires adaptation while preserving the characteristics of the brand.

In the context of an international retailer, we will explore how the drivers of customer satisfaction change across contexts and channels. There is a vast research stream covering the importance of satisfaction and its close relative delight, and their effect on customer intentions and behavior (Finn 2012, Rust and Oliver 1997, Mittal and Kamakura 2001), and there is a wide research focusing on understanding the chain between satisfaction and firm performance (Rust and Zahorik 1993) and financial results (Bowman, Douglas and Das Narayandas 2004). Building on prior research that has focused on measuring satisfaction across multiple dimensions in service and retailing environments, online and in person (Parasuraman, Zeithaml and Berry 1988, Parasurman, Zeithaml, Malhotra 2005, Wolfenbarger and Gilly 2003), this research contributes to a deeper understanding of the drivers of customer satisfaction. Besides the typical drivers (expectations, confirmation and disconfirmation, efficiency characteristics) we will also explore the effect of emotions, fairness and price perceptions, and attributions along each channel. The similarity of variables that are available across channels will allow a deeper understanding of the drivers of satisfaction multiple channels, and observe differences based on specific country characteristics.

Using data collected specifically for each channel and the overall customer experience with the retailer, we explore the implications of the customer experience across channels and various in-store services on customer satisfaction. Using a multi-stage model we identify how different attributes affect satisfaction function of channel type, channel and country characteristics and phase of the purchasing process. The reach data allows us, by using store level data and customer level data, to infer which stages and characteristics of the purchasing process most influence the drivers of satisfaction and make recommendations for managers. We observe stock-outs and products that require assembly, or third party servicing, as opposed to simple décor items. Product complexity and requirements (self assembly versus store assembly, delivery versus self carrying) provide a new layer of understanding the drivers of satisfaction in a multitude of

specific contexts and country characteristics. The database is populated by close to a million entries from over 12 countries, and more than 100 stores.

Methodologically, we will use a two-stage model, employing a procedure similar to that used in mixed models. First, using regression, we will develop models across countries and channels to determine the coefficients and their elasticity for the drivers of satisfaction across channels (in store, internet and catalog) and countries. In the second stage, the coefficients identified in the first stage become dependent variables function of channel and country characteristics. Given that we have data from over 10 countries across three channels, gathered across one to four quarters, we expect to have sufficient statistical power.

Recent studies of satisfaction focused on the difference between satisfaction and delight (Finn 2012). Though we do not have delight available, preliminary tests show that if we treat satisfaction as a dichotomous variable, (e.g., really happy=a rating of 5 versus the rest, 1 to 4), the variables that are the drivers of satisfaction seem to be different than the variables that are the drivers of dissatisfaction (neutral or unhappy=a rating of 1 to 2, versus the rest, 3 to 5). This is the first study to address the dissatisfiers concomitantly with satisfiers and to analyze how they differ across channels and countries.

The research has important implications for both theory and practice. For practice, this multi-channel/multi-country exploration in the retailing space provides insights for service managers on where to focus their efforts in order to have maximum impact on both satisfaction and performance at customer level. For theory, this work will allow for a deeper understanding and comparison of what drives satisfaction across channels and within different cultural and competitive contexts. Though satisfaction has been often studied within a channel, comparisons of drivers of satisfaction across channels are missing.

## REFERENCES

Bowman, Douglas and Das Narayandas (2004) "Linking Customer Management Effort to Customer Profitability in Business Markets," *Journal of Marketing Research*, 41 (November), 433-447

Finn, Adam (2012) "Customer Delight: Distinct Construct or Zone of Nonlinear Response to Customer Satisfaction?," *Journal of Service Research*, 15(1), 99-100

Mittal, Vikas and Wagner A. Kamakura (2001), "Satisfaction, Repurchase Intent and Repurchase Behavior: Investigating the Moderating Effect of Customer Characteristics," *Journal of Marketing Research*, 38 (February), 131-142.

Olivier, Richard L., Roland T. Rust, and Sajeew Varki (1997) "Customer Delight: Foundations, Findings, and Managerial Insight," *Journal of Retailing*, 73 (Fall), 311-336

Parasuraman, A., Valarie A. Zeithaml, and Arvind Malhotra (2005) "E-S-QUAL: A Multiple- Item Scale for Assessing Electronic Services Quality," *Journal of Service Research*, 7 (February), 213-233



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