

## Abstract

‘Lean’ has become a popular approach to public service reform. In the current era of reduced public spending, it promises to maintain service productivity, improve utilisation and maintain quality. Drawing on literature and empirical data, this paper will argue that the implementation of Lean to date has been defective – it has focused on the technical tools of implementation without an over-arching business logic to validate it. This paper will argue that Lean can only achieve its potential in public services when based within a public service dominant business logic. Without this, Lean is doomed to fail both as a theory and a set of practices.

## Key words

Lean, service management, service dominant logic, public service reform, improvement

# LEAN

## A failed theory for public services?

Zoe Radnor and Stephen P. Osborne

### Zoe Radnor

School of Business and Economics  
Loughborough University  
Loughborough  
UK  
E-mail: [Z.J.Radnor@lboro.ac.uk](mailto:Z.J.Radnor@lboro.ac.uk)

### Stephen P. Osborne

University of Edinburgh Business School  
University of Edinburgh  
Edinburgh  
Scotland  
UK  
E-mail: [Stephen.Osborne@ed.ac.uk](mailto:Stephen.Osborne@ed.ac.uk)

## INTRODUCTION

Public service reform has been on the political agenda since the late 1970s and has included such approaches as the 3Es (economy, efficiency and effectiveness) through to Best Value and New Public Management (NPM) (Rashman and Radnor, 2005). ‘Lean thinking’ has become a recent prominent and popular approach to public service reform. In the current era of constrained and reduced public spending, it has promised to maintain service productivity, improve resource utilisation and maintain service quality. In short, it has been promoted as enabling public service providers to ‘do more, with less’ (Radnor et al., 2012). However, this paper will argue that the model and implementation of Lean to date has been defective. The current implementation of Lean in public services has focused on the technical tools without an understanding of the principles and assumptions of Lean or, the context in which it is being implemented. Most critically, the paper will lead to a discussion and conclusion that this has come about due to a lack of consideration of the underlying logic and theories of service management. Without utilisation of a service-dominant logic, the Lean approach will be doomed to failure as an approach to public services reform – both as a set of managerial practices and as a theory.

### Public policy and management context

In the US and UK in 2005, the total outlay on public services as a percentage of National Gross Domestic Product (GDP) was 35.9 per cent and 44.5 per cent, respectively (Pettigrew, 2005) rising from 12.7 per cent and 24.0 per cent in 2001 (Karwan and Markland, 2006). In 2011, the Index of Economic Freedom reported that Government spending as a percentage of National GDP was 38.9 per cent for the USA and 47.3 per cent for the UK (Index of Economic Freedom, 2011). During this same period (2005 – 2011), both countries, as well as other countries such as Greece and Portugal, have experienced a profound recession leading to budgetary and spending cuts across the public sector. In England, for example, the Operational Efficiency Report (HM Treasury, 2009) in April 2009 stipulated that potential savings of around £10 billion a year should be sought over 3 years across public services.

This growing pressure on public services across the western world has led to a focus on increased efficiency over and above the outcome measures of effectiveness and equity. Both public services, including health (Guthrie, 2006; Fillingham, 2008) and local government (Office of the Deputy Prime Minister, 2005; Krings et al., 2006), and central and federal government (Radnor and Bucci, 2010; Richard, 2008) have responded by implementing a range of business process improvement methodologies including Lean Thinking, Six Sigma, Business Process Reengineering (BPR), Kaizen and Total Quality Management. Tellingly, in a recent literature review

focusing on the use of these methodologies in the public sector, 51 per cent of publications sourced focused on Lean, and with 35 per cent of these within health services (Radnor, 2010a, 2012a).

This research on Lean has suggested it can offer significant impact related to quality, cost and time and even to the satisfaction of both staff and service users. The UK Ministry of Defence, for example, reported a fall in the cost of maintaining one aircraft from £711 to £328 together with a reduction in manpower required for this activity by 21 per cent; the, Connecticut Department of Labour eliminated 33.5 staff hours in its work by the redesign of its processes, saving \$500,000 in staff time over a year; and Solihull Borough Council produced £135,000 saving in the postal costs for its fostering service, through a Lean review (Radnor, 2010a). Other reported benefits have included the reduction of waiting time for public services and a reduction in service costs through a reduction in resource utilisation (Silvester et al., 2004) as well as intangibles such as increased employee motivation and satisfaction and increased customer satisfaction (Radnor and Boaden, 2008).

This apparent success story marks the starting point of this conceptual paper. Through exploration of the empirical literature, and referring to three large evaluations within the public sector (Radnor and Bucci, 2007, 2010; Radnor et al., 2006), it will reflect on this success story. The paper will argue that although Lean appears to have had a successful impact within public services, the actuality has been one of easy successes and a lack of sustainability and resilience in the benefits achieved. It will argue that Lean does have the potential to have a substantial impact upon public services reform. To achieve this, however, it cannot be treated as a theory in its own right. It is only a set of tools. Rather it needs to be situated in what we term a *public service-dominant business logic* (Osborne et al., 2013) to achieve enduring benefits for public services and their users.

The paper will begin by outlining what Lean is and how it has been implemented within public services. The challenges of such implementation will be reflected upon before concluding that for Lean to move beyond a simple tool-kit focused on short-term efficiency gains, it needs to form part of a broader conceptualisation of public service reform based within such a public service-dominant business logic.

## WHAT IS LEAN?

Lean (also referred to as the Toyota Production System or TPS) originated within the Toyota Motor Corporation for the manufacture of cars as a then radical alternative to traditional method of mass production and batching principles for optimal efficiency, quality, speed and cost (Holweg, 2007). Lean seeks to ‘design out’ overburden (*muri*), inconsistency (*mura*), and waste (*muda*) in operational processes. The five core principles of Lean thinking have been effectively summarized by Womack and Jones (1996). The first is to specify the ‘value’ created by the operational process. This should

not be dominated by provider interests, but instead should reflect what the customer will value. The second involves identifying ‘value streams’ or those processes that will ultimately add value to the product or service. This can be achieved through forms of problem-solving and change management, often through re-drawing activities that add value, whilst eliminating those that do not. The third involves creating ‘flow’ throughout these processes. This means breaking down the boundaries and divisions between organisational and occupational groups to ensure work streams are continually attuned to the creation of value. The fourth highlights the importance of demand or ‘pull’, through responding to the needs of customers, rather than suppliers. Finally, Womack and Jones (1996) talk about the need to embed ‘Lean thinking’ as a continuous activity within the culture of the organisation.

Through all the principles, it is argued that Lean thinking centres around better configuring operational processes, as well as fostering behavioural cultural change by focusing on value creation. Crucially in Lean, ‘value’ is defined by the customer or consumer, not the organisation (Womack and Jones, 1996).

Building on this point, it is important to reflect the key assumptions which Lean is based on. Without these, Lean cannot work. These assumptions have been defined as (Radnor et al., 2012):

- determining ‘value’ and ‘waste’ from a customer’s point of view,
- creating value either by reducing waste and thus the cost of a product or service, or by increasing the value-adding activities without increasing the cost of the service or product,
- appreciating that there is a defined and measurable benefit to the organisation in reducing non-value adding activities – in the private sector this has been seen as a reduction in cost, or an increase in competitiveness against the peers,
- freeing up resources through the above processes to help a business, and
- understanding that at the heart of Lean is the concept of ‘customer value’.

This genealogy for Lean raises three important challenges for its implementation in public services – in that they are not manufactured goods but services, that the focus of the operating processes and systems of Public Service Organisations (PSOs) are often internal rather than external, and that the indicators of success are different than for private sector businesses. When considering the use of Lean in healthcare, for example, Radnor et al. (2012) reported that these contextual differences have created significant challenges for the implementation of Lean in public services. First, unlike in the private sector, the customer (or service user) and commissioner of public services are not the same, which presents difficulties in determining ‘customer value’. Second, public services are currently designed to be capacity-led, and hence there is limited or no ability, or willingness, to influence demand (Osborne and Kinder, 2011), or to re-use freed-up resources to grow the business. Finally, the private sector ‘raison d’être’ of Lean is on efficiency and cost reduction – yet public services must also consider

effectiveness and equity (Radnor et al., 2012). In this paper, these and other challenges will be explored beyond healthcare before arguing that the reason they exist is because across public services, the underlying logic which would allow fuller engagement of Lean/continuous improvement concept (particularly value and flow) is missing. The paper will conclude by offering an alternative theory of Lean based within a public service-dominant business logic and which we argue has genuine potential for the sustainable reform of public services and not simply short term, unsustainable, efficiency gains.

## **UNDERSTANDING LEAN IN PUBLIC SERVICES**

From a historical perspective, Lean initiatives first appeared in UK health service in 2001 and in the USA in 2002. Lean programmes have subsequently been ‘rolled out’ both in the UK National Health Service (NHS) and in a number of UK government departments since 2006, such as the HM Revenues and Customs, HM Court Services and the Department of Work and Pensions – and with the National Audit Office developing a maturity framework to assess the implementation and impact of such Lean programmes (National Audit Office, 2010). Whilst many of the NHS projects have been small-scale and intended to create ‘pockets of best practice’ rather than adopting an organisation or system-wide approach, in contrast many of the Government departments have chosen to implement ambitious organisational wide programmes (Radnor et al., 2012).

In order to explore further the implementation and challenges of Lean in public services, this paper will draw upon a recent systematic literature review and several empirical evaluations of Lean implementation in the UK. The systematic literature review was carried out in order to identify the key research currently underway in this field (Radnor, 2010a)<sup>1</sup>. This review identified just over 300 relevant papers published in the last 10 years. A further stage of research quality review narrowed this total down to a core of 116 relevant papers.

Central to these papers were a series of major evaluations of the use of Lean within UK public services carried out by the lead author to this present paper. These included studies of Lean in the Scottish Government and local government in Scotland (Radnor et al., 2006), in the HM Revenue and Customs (HMRC) through the Pacesetter project (Radnor and Bucci, 2007), and in Her Majesty’s Courts Service (HMCS) (Radnor and Bucci, 2010). These evaluations, taken together with the wider review of literature, identified significant challenges embedded in the implementation of Lean in public services. Many of these could be described as ‘common’ for most change management initiatives and not specific to Lean as such. These included a lack of commitment from senior management, change objectives that are not aligned to customer requirements, a lack of training for staff and a poor selection of projects for implementation (Antony, 2007; Lucey et al., 2005; Oakland and Tanner, 2007; Radnor et al., 2006). However,

four challenges were identified in this body of research that are particular to Lean. These are

- A focus and over reliance on Lean workshops ('Rapid Improvement Events'),
- A tool-kit based approach to Lean implementation, but without an understanding of the key principles or assumptions,
- The impact of public sector culture and structures, and particularly the competing professional and managerial role in relation to Lean implementation, and
- A lack of understanding of the centrality of the customer (or service user) and of service process to the Lean implementation.

### **A focus and over reliance on Lean workshops**

There are two main approaches to Lean implementation in public services. These are the use of discrete workshops or events taking place over a concentrated set of time, often known as Rapid Improvement Events (RIEs), or a comprehensive implementation or programme approach across the whole PSO. Both of these approaches often used the same tools but are different in the breadth, depth and regularity of their use – with RIEs being short to medium term in focus and the programmatic approach being committed, at least in principle, to continuous improvement.

Rapid Improvement Events (sometimes called 'Kaizen' events) are workshops involving staff from across the organisation, often with multiple functions, getting together to make small and quick changes. Rapid Improvement Events comprise three phases, beginning with a preparation period, followed by a five day event to identify potential Lean changes and a three–four week follow-up period when these changes are implemented. The approach is often favoured by staff as it provides an apparently fast return for effort, is visible, and does not challenge existing management control styles (Radnor and Walley, 2008). However, in isolation this approach can be problematic. Rapid Improvement Events tend to be more focused on short-term outcomes than longer-term developmental issues (Radnor and Walley, 2008). Spear (2005) has noted that a series of such small-scale successful Lean projects can have a dramatic impact in the longer term. However, he also notes that, in order to achieve this longer-term impact, it is important that these small-scale projects are all focused around a clear long-term improvement strategy. Currently, this appears not to be the case in many public service RIE events (Radnor et al., 2012).

The full programme approach requires the entire PSO to be engaged in the implementation of Lean. Rapid Improvement Events may be used to change key areas or departments but fundamentally the programme is focused on developing behaviours throughout the organisation which continuously improves value, flow and performance through the use of a range of Lean tools – including performance boards/visual

management, daily meetings, workplace audits, problem solving and experimentation (Holweg, 2007; Spear and Bowen, 1999). The key issue in such programmes is not so much the application and use of these tools. Rather it is about building a more fundamental understanding of the underlying principles of Lean through their application. They are a means to an end rather than the end itself (Shah and Ward, 2007). Although HMRC and HMCS did claim to be carrying out full programmatic approach, the evaluations revealed only pockets of short-term impact around RIEs rather than a systemic embedding of the principles of Lean (Radnor and Bucci, 2007, 2010). The only examples of a truly programmatic approach to Lean identified in the literature review were in two hospitals – the Royal Bolton Hospital in the UK (Fillingham, 2008) and the Virginia Mason Hospital in the US (Bohmer and Ferlins, 2006). This short-term approach to Lean in public services has limited its impact in the extreme.

## A tool-based approach to Lean implementation

Drawing from the extant literature, typical tools and techniques associated with Lean include Kaizen events, process mapping, ‘5S’, value stream mapping<sup>2</sup> and, visual management (Radnor, 2010). Assessing these tools, Radnor (2010) has argued that they can be used for three purposes within PSOs as part of Lean implementation. These purposes are:

- **Assessment:** To assess service delivery processes at organisational level, e.g. value stream mapping, process mapping,
- **Improvement:** To support and improve the processes of service delivery, e.g. RIEs, 5S, structured problem solving, and
- **Monitoring:** To measure and monitor the impact of the processes and their improvement, e.g. control charts, visual management, benchmarking, workplace audits.

As discussed above, Lean implementation in the HMRC began in April 2006 across a number of sites (Radnor and Bucci, 2007). It consisted of introducing revised processes in the four key customer-facing operations at each of the sites: performance boards which reflected the teams’ performance, resource planning mechanisms, targets and, problem-solving. These operations were supported by daily meetings (10 min each morning) to motivate the staff to reflect upon the achievements of the previous day, to plan the coming day’s work and to resolve any outstanding problems or issues with the Lean implementation process. Other tools were also introduced to support ongoing problem-solving (Radnor, 2010).

Within HMCS, all jurisdictions of the court were involved in the Lean programme and it was designed to be external consultant-free, focusing rather on developing internal change agents. These were HMCS staff who had undergone training through a

'Lean Academy'. Each court started with a Lean RIE to introduce the revised processes and to incorporate them into the Standard Operating Procedures (SOPs) and practice of the courts. Like with the HMRC, these practices included the introduction of team information or performance boards for every team to use to manage workload allocation, problem-solving exercises, and regular evaluation of the skills development and service successes achieved. The performance boards were to be used in conjunction with regular short (10–15 min) daily team meetings, led by the team leader, to communicate the current day's work, discuss any problems that have been encountered and to clarify points of common interest.

What both these case examples demonstrate is a pre-occupation in public service Lean programmes with the tools of Lean rather than the over-arching approach itself. These tools may, and often did, lead to short-term success in improving the internal efficiency of the PSOs concerned. However rarely, if ever, did they consider the issue that is actually central to true Lean implementation – the centrality of the customer and customer value to organisational effectiveness. This is returned to below.

The implementation of Lean is often described as 'a journey' – with the various stages of implementation being landmarks along the journey Hines et al. (2008) also argue that this journey is about developing a Lean philosophy within organisations, based on 'a Lean lifestyle'. They go on to develop this analogy with the aid of an iceberg model illustrating two main interacting elements. Below the water (and hence invisible) are the core enabling elements of strategy and alignment, leadership and behaviour and engagement. Above the waterline, and visible, are the technology, tools and techniques, and process management. This model indicates that Lean can only succeed when the invisible strategic and value-based elements are in place. The reality in PSOs though has been implementation of the visible elements alone. This has inhibited profoundly its ability to make an impact upon the effective delivery of public services.

Radnor (2010) has reframed this argument by stressing the importance of organisational readiness factors for the implementation of Lean. These factors include an understanding of the processual nature of public services delivery, an appreciation of what 'value' actually comprises within public services, an external orientation for the Lean process and the PSO, the active engagement of staff in process redesign and the centrality of co-production to effective Lean (Radnor, 2010). She has argued further that an absence of focus on these factors in Lean implementation in public services has resulted consequently in a lack of sustainability in the longer term for these Lean initiatives (Radnor, 2010b; Radnor and Bucci, 2007). Tools have been focused on to the exclusion of strategic intent.

## **The impact of public sector culture and structure**

McNulty (2003) notes that across PSOs as a whole, policy is invariably focused at the senior level and undertaken by managers, whereas practice occurs at the operational



level and undertaken by professionals (such as clinicians, teachers or social workers). He describes further how professional work is broken down into specialities that very rarely cross departmental boundaries and that professionals control the flow of their work. Consequently, they can resist managerial attempts to make their work more predictable, transparent and standardized.

Within healthcare in particular, it has been argued that this challenge can cause conflict. Clinical acceptance of change initiatives proposed by service managers can be difficult because of resistance to being told how to do things, because they are uninterested in process improvements across departments that are apparently aimed at efficiency gain alone and because they perceive these initiatives as in conflict with their professional values (Cauldwell et al., 2005; Wysocki, 2004). This has been especially so in the case of process re-design initiatives, such as Lean (Woodard, 2005). Despite this opposition, clinical buy-in is critical to the success of the initiatives, as clinicians invariably have a strong power-base within the health service and have the power and credibility to convince colleagues that these initiatives can improve patient care – or not (Cauldwell et al., 2005; Guthrie, 2006; Massey and Williams, 2005).

Gulledge and Sommer (2002) point out that the mandates and structure of the implementation of these process improvement methodologies are based on the traditional ‘command and control’ structures that will be found most commonly in private sector firms and that their implementation in PSOs has been predicated upon the existence of this model. Significantly, the research has revealed that many Lean initiatives are actually top-down, driven by policy and public spending necessities, rather than bottom-up, based upon expressed need. This was found to be the case in the HMRC and HMCS examples discussed above. These Lean programmes were decided upon and designed to the exclusion either of the tax officers or legal staff who would be responsible for their implementation or of the service users who were purportedly to benefit from these reform programmes. Consequently, these Lean initiatives became policy, or finance, facing rather than oriented to the benefits of the end-users of services – a core element of true Lean. As a consequence, both Gulledge and Sommer (2002) and Seddon and Caulkin (2007) have suggested that this has meant that Lean can never achieve its potential in public services, precisely because it is policy and finance facing, rather than end-user facing. Frontline staff end up reacting to internal measures and targets rather than to external customers (i.e. their end users). This is an anathema to the true vision of Lean.

### **Lack of a focus on the centrality of the customer/end user and of process to Lean**

Proudlove et al. (2008) argue that a key problem for Lean in healthcare is of ‘*identifying customers and processes in a healthcare setting and the use of clear and appropriate terminology*’ (p. 33). Halachmi (1996) has also contended that it is hard to specify value in public

service delivery because some organisational functions and procedures do not contribute directly to value, at least in the eyes of the customer (Halachmi, 1996).

Within a commercial organisation, the definition and requirements of the customer are comparatively straightforward and directly impact upon turnover and profit. It therefore becomes easier to identify value and value-added activities. Within public services, though, the concept of a 'customer' is not so straightforward and can be contested. It can include direct end users, unwilling or coerced users, multiple users of a service, citizens who indirectly benefit from a service and future users of a service (Osborne et al., 2013). Moreover, the terminology of 'customer' or 'consumer' is itself problematic, rooted as it is in the discourse of commercial and business firms. The concept of the end-user is perhaps more appropriate. It does not assume the presence of a market exchange or commercial relationship – though it too suffers from some of the multiple meanings identified above. This issue of the centrality of external customer/end user value to successful Lean implementation is particularly important and is returned to further below.

Moving on to the issue of the role of 'process' in successful Lean implementation, Denison (1997) has described the ideal type of 'process-organisation' as one '*wherein the primary issue of organisational design is creating value and organising is understood not as a series of functional units or business units but as a collection of interrelated processes that create value*' (p. 31). A key problem for Lean in PSOs has been, in contrast, that it has focussed upon internal departmental efficiency rather than external, service-user driven, value (Radnor, 2012).

Three brief examples will make this point. First, across HMRC and HMCS, for example, in response to the question 'who is the customer' the response was often 'everyone'! When asked whether the requirements of these customers were understood the answer was invariably 'yes – high quality quick information' but with little articulation as to what that meant in terms of standards and requirements. In both organisations, therefore, there was no clear understanding either of who their end users were, or of what level of quality and timing of information would result in better service delivery processes and more satisfied end-users (Radnor and Johnston, 2013).

Second, it is a truism within healthcare that the delivery of patient care is largely a human process and consequently that the causes of variability are often difficult to quantify. Walley et al (2006) and Seddon (2005) have both argued that there is a need to better understand how demand varies across healthcare and to remove activities that do not add value to the patient or that create bottlenecks in the system. An example of such an improvement might be transferring patients from emergency departments to theatres more quickly by removing unnecessary paperwork, reducing the number of different staff involved in the process to minimize handover time, and/or to improve the physical layout of hospitals (Lister, 2006; Mango and Sharpiro, 2001; Walley et al., 2006). This is a classic Lean approach – it seeks to reduce queues by managing the variation in process. All too often, though, the public service approach has been to focus increasing the number of public goods provided, in a situation where demand is,

literally, inexhaustible. Like de-marketing (Osborne and Kinder, 2011), Lean approaches seek to control either the level of demand for value and/or the processes used to deliver it.

Finally, Seddon and Brand (2008) outline two different types of demand – value demand (‘what we are here to provide’, or mission-driven demand) and failure demand (‘failure to do something or do something right for the customer’). They report that in local government departments in the UK, the level of failure demand can be as high as 80 per cent, severely limiting the ability of such departments to deal with value, mission-driven, demand. Understanding this key distinction in types of demand is vital to PSOs. Yet, the findings of the HMRC and HMCS evaluations detailed above clearly indicated that the reform focus was not on how patterns of work could be changed to better meet the demands of service users but rather on how the demand could be moved around to fit with the existing work patterns of the organisation. The organisations were capacity not demand led and this only led to an increase, not decrease, in failure demand. This is a failure of Lean (Radnor and Bucci, 2007, 2010).

## **Interim conclusions**

The extant literature clearly indicates that there are potential benefits from introducing Lean approaches into public services delivery and that these benefits can add real value to the end-users of these public services (Radnor, 2010a, 2010b, Radnor and Johnston, 2013). However, implementation has invariably failed to meet these expectations, for two reasons. First, it is true that PSOs have made some time and cost savings that have benefitted the public purse. The HMRC, for example, has saved £400m from the implementation of the Pacesetter initiative (National Audit Office, 2011). Arguably though, these savings were primarily a product of addressing the prior poor design of these public services – what we have termed ‘picking the low hanging fruit (and windfalls!)’ of public management reform. This may be an important goal in its own right, but it is not the intent of Lean. This intent is rather to improve the effective delivery of end-outcomes to the external users of public services and to add value to their lives in doing so. To extend our metaphor, the challenge is therefore not how to pick more of the low hanging fruit, no matter how easy this may be. They are invariably the smallest and least tasty of the fruits on the tree. Rather, it is to become more ambitious and seek to gather the real, substantive, harvest of public management reform.

Second, it is vital to its success to understand that Lean is context dependent (Radnor et al., 2012). It derives originally from a private sector, manufacturing context (Toyota) and this context has affected, and limited, its early implementation in public services. However, it cannot be simply transferred across to a public service context and assume that it can offer the same benefits. If this is the intent, then Lean will indeed be a ‘failed theory’ with little to offer public services beyond the correction of previous

design faults. If Lean is to go beyond this and to offer a genuine route to increased public service effectiveness and increased end-user value then we need to develop a modified theory of Lean suited to the public service context. The remainder of this paper will sketch out the preliminary elements of such a theory of public service Lean, based within as public service-dominant business logic.

## **TOWARDS A NEW THEORY OF LEAN FOR PUBLIC SERVICES**

### **The service context of public services**

Previously, Osborne (2010a) has argued that much public management theory is currently not fit for purpose. It derives from a larger body of generic management theory that has its roots in the experience of the manufacturing sector and which has invariably treated services simply as an anomalous or fragmented industry (Nankervis, 2005). This latter body of theory assumes a product-dominant logic where the production process is dominated by discrete transactions and where the production and consumption processes are entirely separate. This is not the case for services, however, where the production process is iterative, relational and where production and consumption occur contemporaneously (Gronroos, 2007).

This grounding of public management theory in an aberrant logic not suited to their service context has had profound and damaging consequences for the delivery of public services, as successive public management reform initiatives has attempted to find the 'missing product' (Gronroos, 1998) of public services delivery rather than embracing and working with their service-dominant logic. Most relationships between public service users and PSOs are not characterized by a transactional or discrete nature, as they are for such products, but by on-going, iterative, processes (McLaughlin et al., 2009). The majority of 'public goods' (whether provided by the public, third or private sector) are in fact not 'public products' but rather 'public services'. For example, social work, health care, education, economic and business support services, community development and regeneration are all services rather than concrete products, in that they are intangible, process driven and based upon a promise of what is to be delivered. Public services can of course include concrete elements (a hospital or communications technology, for example). But these are not 'public goods' in their own right – rather they are secondary goods used to support and enable the delivery of public services themselves. The fatal flaw of public management theory over the last decade and beyond, encapsulated in the NPM paradigm, has been to consistently draw upon generic management theory derived from manufacturing and product-dominant experience. This has tried to understand public services as if they were discrete tangible products rather than service processes. This product-dominant flaw has persisted despite the growth of a substantive body of services management and service-dominant theory that challenges this product-dominant approach to public services

delivery (for example, Gronroos, 2007; Lovelock and Wirtz, 2004; Lusch et al., 2007; Normann, 1991).

What is required therefore is that we ask new questions of public management reform (Osborne, 2010b) and develop a body of theory rooted in a 'public service dominant-logic' that is context-specific to public services, embraces their true nature of services rather than products and provides fertile rather than sterile directions for the evolution of public services that are both internally efficient and externally effective (Osborne et al., 2013). Consequently, we argue here that a theory of Lean fit for purpose for public services reform has to be part of this new direction for public management theory. Below, we now sketch out what the core elements of this theory might comprise.

### **Service management and service-dominant theory: A brief introduction**

Osborne et al. (2013) provide an integrated overview both of services management and of the related field of service-dominant theory in order to take forward the debate about the management and delivery of public services which, to date they argue, has been conducted in almost ignorance of this influential body of theory despite its apparent relevance. They highlight three core characteristics of services which differentiate them from manufacturing goods and which posed qualitatively different challenges for their management: their intangibility, simultaneous production and consumption, and the role of end-users as the co-producers of services.

First, *whilst a product is invariably concrete (such as a washing machine), a service is intangible* – it is a process (staying at a hotel is not simply about the quality of the room that you occupy, it is also about the overall process/experience of your stay). This is not to say that the content of a service (its purpose) is irrelevant; it must deliver its intended benefits – whether it is a healthcare or lifestyle service. However, research also consistently suggests that whilst service users expect a service to be 'fit for purpose', they base their judgement of its performance upon the congruence of their expectations and experience of the process of service delivery rather than upon outcomes alone (Lovelock, 1983). *This means that influencing and understanding a user's expectations of a service is fundamental to their experience of, and satisfaction with, that service – and that this experience then affects quite profoundly the effectiveness and impact of that service* (Normann, 1991, Gronroos, 2007).

Secondly, a core concept of services theory is that *there is a different production logic for manufactured products and for services*. For the former, production and consumption occur separately (as with the above example of a washing machine). With services however, production and consumption occur simultaneously. The production of a sporting event takes place at exactly the same time as its consumption, for example, as does the production and consumption of residential care or a business consultancy exercise. Because production and consumption are not separable for services, this implies entirely

different business logic for them from manufactured products (Edvardsson et al., 2005; Prahalad and Ramaswamy, 2006). It is quite possible to reduce the unit costs of a manufactured product, for example, by reducing labour costs in order to increase the efficiency of production or, referring to the assumptions of Lean, release capacity to grow the business. However, for a service, reducing its unit costs by changing staffing levels or experience will lead directly to a reduction in the quality of those services, unless other action is taken to offset this reduction. This is because those ‘production’ staff are an integral part of the service that is ‘consumed’ by the end user of a service. *The process of production is an integral element of the process of consumption for services.* You cannot separate the two as for manufactured goods and this produces a wholly different business logic for goods and services.

Finally, *the role of the end-user is qualitatively different for manufactured products and services.* In the former, they are ‘simply’ their purchasers and consumers. However, for services, the user is also a co-producer of the service<sup>3</sup>. At the most extreme, no service is ever produced identically for two people – a meal in a restaurant is as much a product of the interaction between the customer and the waiter as it is of the quality of the food, whilst a surgical procedure is influenced just as much by the individual pathology of a patient as by the skills of the doctor. At a fundamental level, therefore, *co-production is not an ‘add-on’ to services but a core feature of them* (Osborne and Strokosch, 2013).

Services theory itself has undergone considerable conceptual development over the last decade. Most recently an influential group of writers have argued that the above three characteristics of services (intangibility, simultaneous production and consumption, and co-production) are actually second-order characteristics. Turning the traditional argument on its head, they argue that ‘service’ is a core feature of both services and products and that a service-dominant approach is the only way to add genuine value to either. This *service-dominant logic* (Lusch and Vargo, 2006, Lusch et al., 2007; Vargo and Lusch, 2004) is concerned with *the creation, or rather co-creation, of value-in-use through the transformation of knowledge* (see also Edvardsson et al., 2005, 2010). Vargo and Lusch (2006) argue that effective service management is thus not concerned with the control of the unit costs and efficiencies of a production process but rather with ‘the application of specialized skills’ and where ‘knowledge is the fundamental [resource]’. In this process, the service user is always the co-producer of value in that there is no extant value for a service until it is used – ‘experience and perception are essential to [service] value determination’ (Vargo and Lusch, 2006).

### **Lean in a (public) service-dominant context**

This service management and service-dominant body of theory has profound implications for the implementation of Lean in public services. For the first time, it provides a meaningful context within which to operationalize the core philosophy of

Lean, rather than simply applying its tools in a mechanistic and product-dominant manner. As has been discussed above, the reasons for the apparent successes of Lean as a public service reform strategy have not been based within the rigorous application of Lean. Rather, the successes have derived from two other sources – that the processes and systems of PSOs were poorly designed initially and/or that little attention had been given previously to the inefficiencies of existing internal organisational processes. By focusing attention, often for the first time, on the design of processes and systems within and across departments within PSOs it has actually been comparatively ‘easy’ to identify and remove forms of waste stemming from such poor design – the ‘low hanging fruit’ of public services reform we discussed above (Radnor, 2012). Much of these early gains have been achieved primarily through focusing on Lean workshops and RIEs. Such a reduction of waste, as long as it does not undermine mission-critical activity, is an important achievement in its own right. However, by itself, it can only ever be a short-term objective of Lean (Balle and Regnier, 2007; Hines et al., 2008). Viewed in this context, Lean has to date simply been a catalyst to address the prior poor design of the public service within and across PSOs. Once waste has been removed, however, the larger issue still remains of designing public services to meet the needs of end-users and to add value to their lives. This is true effectiveness. This focus on the external end-users of a public service is essential to the genuine application of Lean to public services. To date, though, it has been absent, with the focus being upon internal customers and internal efficiency rather than external end-users and external effectiveness. This has been the fatal flaw of the implementation of Lean in public services and why, to date, it has been a failed theory of public services reform. We will now propose five propositions about what the core elements of a public services-dominant theory of Lean should be. The implementation of Lean in the context of these propositions would, we argue, allow it to achieve its potential as a reform strategy for public services – whether in an era of feast or famine.

## **A PUBLIC SERVICES-DOMINANT THEORY OF LEAN**

The starting point for this theory is that Lean has the potential to address both internal public service design inefficiencies and external end-user needs. Indeed, the services management literature suggests that poor service delivery, and impact, invariably results from operational design and management imperfections – and that most such problems (around 70–90 per cent) are recurrent and built into defective internal service processes (Edvardsson and Olsson, 1996). Addressing these is important in its own right. Our contention, though, is that if Lean is implemented within PSOs with a focus only on internal, rather than external, users, then this will severely limit its effectiveness as a public service reform strategy. If this continues, then PSOs will continue to fail to meet user needs – no matter how ‘internally efficient’ they become. Therefore, for Lean to be ‘fit for purpose’ as reform strategies for public services, this

requires it to address the true nature of PSOs and of the public service delivery process. This leads to our first proposition of a public service-dominant theory of Lean:

- *Proposition #1. A focus on internal efficiency is a necessary but not a sufficient condition for the effective implementation of Lean within public services. Rather, it has to be driven by addressing the issue of how to add value to the lives of the end-users of public services.*

Building on this, we argue that understanding Lean within a public service-dominant rather than a product-dominant logic will enable this transformation to take place. Rather than trying to address the discrete production of public services as products (where indeed the issues of internal efficiency can be separated out from the consumption), it rather embraces their true nature as services (where production cannot be separated from consumption and where internal production changes derive their meaning from their impact upon end-users), and ultimate impact upon end-users precisely moves its focus from the search for improved internal processes for PSOs and their external effectiveness (Gremler et al., 1994; Parente et al., 2002; Zeithaml et al., 2008).

Normann (1991) has called this the ‘virtuous circle’ of service improvement that explicitly links improved performance within the organisation to improved performance externally and with service users. In a public service context, this suggests that there are two inter-linked drivers for improvement within PSOs: the efficiency driver (the need to continually look to reduce costs and provide good stewardship of public monies) and the effectiveness driver (the need to understand what service users value and to seek to enhance these values). Taken together, these two drivers can provide the impetus and rationale both for process improvement within PSOs and for the delivery of enhanced value to service users. It is through this that long-term sustainable improvement in public services delivery can be obtained rather than in the shorter-term focus on efficiency gains alone. This leads to our next proposition.

- *Proposition #2. The quality of internal processes is a key influencer of, and contributor to, the quality of external service and their reform only has meaning when this understanding is embedded in any internal reform process.*

This is important given that the first principle of Lean is to focus on what is valued by the end-user. However, adopting an external, end-user orientation does not mean that PSOs become completely oriented to the search for satisfied end-users. This approach was at the heart of the consumerism movement in public services in the 1990s, when ‘customer satisfaction’ replaced ‘service effectiveness’ as a goal for public services. This movement failed precisely because it was only a partial, limited and flawed understanding of co-production and took the end-user of public services out of the broader context of the service delivery process (Jung, 2010; Powell et al., 2010). Rather, as Prahalad and Ramaswamy (2006) suggest in the private sector context,



customer focus means the customer becoming part of value-creation process through acknowledgement of their role in the co-production of services. This argument has been explored in a public service context in more detail by Osborne and Strokosch (2013). They argue for the need to understand the delivery of public services as a multi-faceted and relational process and where end-user engagement in the public service delivery process is integral to their effectiveness (such as through acknowledging that the residents of a home for elderly people co-produce the experience and impact of that service as much as do the staff and management). Naturally, such involvement is not a 'steady state' – there is a continuum of co-production for different types of public services. Moreover, the digital revolution of the last decade has challenged that nature of this co-production<sup>4</sup>. Nonetheless, the understanding of the pivotal role of co-production in the delivery of public services is a prerequisite to their successful management.

Key end-user service delivery issues, such as service quality, customer satisfaction and the customer experience, have to date been researched primarily from a for-profit perspective (for example Ding et al., 2010; Zomerdijk and Voss, 2010). However, there has also been some limited exploration in a public service context (such as Davis, 2006; Micheli and Kennerley, 2005; Price and Brodie, 2001). This research has developed an emerging agenda of the components of a truly co-produced public service. These include knowing who the end users of a public service actually are, as well as their expectations and needs (especially where the end-users of these services can often be multiple and sometimes unwilling service users); developing a shared understanding between public service professionals and service users of the 'service promise' that a public service is offering to its end-users; subsequently, designing the service to deliver this promise (that is, being end-user oriented rather than policy oriented); creating a public service culture and external end-user focus, rather than an internal one; and assessing and evaluating the value and impact of the service from the end user's point of view. The integration of these insights with our above discussion on Lean leads to our third proposition.

- *Proposition #3. Lean can only achieve its full impact when the end-user of public services both is seen as the true beneficiary of Lean reform and is fully engaged in the process of Lean reform and public services delivery.*

Our argument has been that Lean has been embraced by a range of public service and governmental organisations over the last decade. Over this period, it has had an effect in increasing the internal efficiency of these PSOs, often by addressing the initial poor design of their service delivery processes. However, this has often been undertaken without an understanding either that addressing the needs of the external, not the internal, customer is a core element of a genuine model of Lean (Womack and Jones, 1996) or that its implementation in a public services context needs to embrace the public service-dominant logic of such services. Effective implementation would have

required genuine appreciation of the externally-oriented service-dominant context for Lean and the implications of this for organisational culture, as well as the need both to implement and to evaluate the Lean process and its impacts from a user's perspective rather than from an internal organisational one. These are both core elements both of services management and of a service-dominant approach to services delivery (Clark et al., 2000; Johnston, 2008; Olsen and Johnson, 2003). Without this cultural shift, Lean is doomed to fail.

Further, public services are inherently knowledge-driven entities. Their achievement requires the translation of this knowledge by professionals to attain an ultimate impact upon the end-users of these services. However, developing the argument of Lusch and Vargo (2006) to a public service context, the effective translation of such knowledge requires genuine co-production between these professionals and end-users together. This leads to our final two propositions.

- *Proposition #4. Lean can only succeed as a reform strategy for public services when it is seen as a holistic theory of service delivery that implies a cultural change for PSOs to an externally, end-user driven culture, rather than its discrete implementation as a set of isolated technical exercises.*
- *Proposition #5. Lean requires an understanding by professionals that the application of their professional knowledge can only achieve its full impact when this knowledge is shared with end-users and used to co-produce added value to their lives. This is a core element of the cultural change required for the effective implementation of Lean within public services.*

## **CONCLUSION: TOWARDS A RESEARCH AGENDA FOR A PUBLIC SERVICE-DOMINANT THEORY OF LEAN**

We have argued, persuasively we believe, that Lean is currently a failed theory of public services reform. This does not have to be the case, however, and we also believe that Lean has a real potential to be a powerful engine for the reform of public services. We have subsequently outlined the five propositions that we believe should be at the heart of a public service-dominant theory of Lean that could fulfil this potential. In this paper, our argument has been a conceptual one. What is needed now is a coherent body of research to test out, refine and deepen this public service-dominant theory of Lean. In closing, we would offer the following as the key areas of research that are now required.

First, as detailed in Osborne et al. (2013), further work is needed to test and refine the broader concept of a public service-dominant logic, within which our public service-dominant theory of Lean is embedded. Second, research is required that explores the concept of end-user value as the key performance measure of public service delivery, rather than internal efficiency. Third, further work is required that

will explore the links between the internal processes of PSOs and their impact upon external end-users. To date, this has often been treated as an imponderable 'black box'. Fourth, the concept of co-production itself needs further exploration and evaluation in order to understand how it might best achieve the potential outcomes of this process outlined in Osborne and Strokosch (2013). Fifth, the application of Lean as a model of cultural change needs to be explored. Cultural change offers a seductive route to organisational effectiveness, though it is often easier to articulate than achieve (Ogbonna, 2007). Evaluation of Lean as a cultural change paradigm for PSOs is thus required. Finally, a series of empirical studies are needed that explore both the contingencies of successful implementation and the limitations of Lean: are there certain types of public services or service delivery circumstances where Lean is either inappropriate or ineffective? Taken together, this body of research would provide us with the evidence upon which to build a viable and effective theory of public service-dominant Lean that is truly 'fit for purpose' to underpin and to drive forward the successful reform of public services delivery in the twenty-first century. Only then will Lean cease to be an 'unfulfilled promise' (Radnor et al., 2012), and theory, of public services reform.

## NOTES

- 1 The full methodology of this review is presented in the report itself (Radnor, 2010a).
- 2 Value stream mapping is the identification of all the specific activities occurring along a value stream for a product or product family (or service).
- 3 Importantly, this does not imply any active willingness to co-produce upon behalf of the user – simply that it is impossible to use a service without, in some way, contributing to its co-production (Korkman, 2006). This might be at a minimal level (by co-producing an insurance policy by inputting your personal details) or more holistically (by co-producing a vacation experience through your needs, desires and involvement in 'your' holiday).
- 4 It would be a mistake to believe that it has undermined it however. Rather it had both changed the terrain on which this co-production is enacted (Dunleavy et al., 2006; Kinder, 2000; Pascu and Van Lieshout, 2009) and in some cases transferred power to service users and citizens by breaking down the professional and political control of key public service information that has hitherto existed (Bekkers et al., 2011). At the extreme, some authors have argued that this has increased the potential for the active co-production of public services rather than reduce it (Margetts, 2009).

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