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RISK AND INNOVATION

Towards a framework for risk governance in public services

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Abstract

This paper focuses upon two complex and related concepts, namely risk and innovation in public services. The last two decades have witnessed an increasing policy imperative around using innovation to improve the efficiency and effectiveness of public services. Innovation is seen to be inextricably linked to positive risk-taking, and yet little attention has been paid to its governance in the public service innovation process. This paper argues that existing approaches to risk and innovation are not sufficiently developed and propose a framework of risk governance that aims to address these issues and suggests a research agenda for the future.

Key words
Innovation, risk, public policy, social policy, public services

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The policy trajectory privileging innovation as a means to improve the efficiency and effectiveness of public services across the UK has been moving at pace. Often referred to as 'the innovation imperative' and enshrined within the UK White Paper 'Innovation Nation' (DIUS, 2008), the desire to use innovation to reform public services is strong. Evidence of this can be seen through the burgeoning number of public service innovation policies, units, hubs, forum and funding initiatives across the UK – such as the Public Sector Innovation Unit (Cabinet Office), the NHS Institute for Innovation and Improvement in England, and the Innovation Framework and the Design Innovation Partnership in Scotland.

Such interest and policy attention has increased in the UK, as the extent of the recent global economic recession and its likely impact on public expenditure has been exposed. Recent research has confirmed that 'the importance of innovation [has] increased over the past 12 months as a result of the recession' (Patterson *et al.*, 2009: 12). Innovation is seen, rightly or wrongly, both to offer opportunities to do more for less and to be essential for a creative response to the recession (Gillinson *et al.*, 2010). However, Patterson *et al.* (2009) have also identified the danger that the global recession may lead to a risk (and innovation) aversive culture within public services.

Within this public policy context, one challenge that we have consistently argued has received less attention than it deserves is the management of risk in innovation (Brown, 2010; Osborne, 1998a; Osborne and Brown, 2011a). Perhaps unsurprisingly within the public service context, risk is invariably presented as a negative phenomenon – at best something to be minimized if not avoided. Yet writers on innovation in both the business and public sectors have emphasized the centrality of effective risk-taking to successful innovation (e.g. Borins, 2001; Singh, 1986). By its nature, innovation carries significant risks – such as the failure of the innovation, its non-adoption by the producers or users of a good or service, or its inability to be sustainable in the long term. One recent review of the literature, for example, has suggested that only 20 per cent of innovations are viable and sustainable. (Van der Panne *et al.*, 2003). In public services, this hegemony of risk is exacerbated by factors such as the vulnerability of many users of public services, and the intense media and political scrutiny that such services receive (Borins, 2001).

As a result of this, our argument is that positive engagement with risk is an essential prerequisite of the effective management of risk in innovation in public services. It cannot be removed, but rather governed in practice. We argue therefore that current theory (and practice) about risk and innovation in public services is not fit for purpose. It mistakes the nature of risk as a phenomenon to be minimized rather than as an essential element to be governed in practice. This paper provides a contribution towards the development of a more coherent conceptual framework for understanding the place of risk in innovation in public services. It sets out a series of five propositions as a potential framework that could be used to elaborate a more appropriate 'theory in practice' for its management. As has been argued elsewhere, such an applied approach to theory is an essential element of the public management research community (Andrews and Boyne, 2010; Head, 2010).

This paper is in five sections. An initial section will clarify briefly the nature of innovation in public services. The following section will, respectively, review the concept of risk in relation to innovation, situate it in relation to current public policy and practice, drawing largely upon the UK, and finally assess existing research in this field. On the basis of this analysis and the conceptual gaps that it identifies in our understanding of risk and innovation in public services, the third section will then go on to propose a new approach to understanding this phenomenon. It will argue that there is a need to move away from *risk minimization* and *management* and towards *risk governance*. The final two sections will then consider the policy and practice import of this new approach and establish a research agenda to test out, refine and take forward our understanding.

UNDERSTANDING INNOVATION IN PUBLIC SERVICES

The definition of innovation adopted for this paper is 'the intentional introduction and application within a role, group or organization of ideas, processes, products or procedures, new to the relevant unit of adoption, designed to significantly benefit the individual, the group organization or wider society' (West and Farr, 1990: 3). In this context, it is important to differentiate between incremental or continuous change (*developmental change*) and change processes characterized by discontinuous or transformational elements (*innovative change*; Tushman and Anderson, 1985). As we have argued elsewhere, innovation is not simply a normative word to connote beneficial change in public policy or services, but is rather a distinctive category of discontinuous change that offers special challenges to policymakers and service manager alike (Osborne and Brown, 2011b). This discontinuity can be in terms of a new public service product (pendant alarms), a new policy programme or service (SureStart), a transformed process (NHS Direct) or a new configuration of an existing set of relationships to fulfil a task (Integrated Health & Social Care Teams).

Within this process of innovation, there may be a change in relationships, behaviour or the way in which things have previously been done. Such managerial tasks are qualitatively different from those of managing developmental change – it is one thing to support staff in developing their existing skills for their jobs, for example, but something of an entirely different order to advise them that these skills (or even their jobs) have been made redundant by an innovation in service delivery. The most frequently adopted depiction of the innovation process is that of Van de Ven *et al.* (1999) who describe it as a non-linear 'innovation journey' where the management of risk is essential to its completion. This approach is found in public management work by authors such as Walker (2003), where the process is applied to housing associations.

Triggers for this 'journey' classically stem either from the need to respond to an organizational crisis and poor performance, or from horizon-scanning activities and the impetus and conditions for more radical change. Established theory from the manufacturing sector has long emphasized the significance of competition as a key driver for innovation (Porter, 1985). However, more recent, services driven, theory has stressed rather the significance of both collaboration and 'open systems' approaches to innovation (Brown and Duguid, 2000) and its co-production with service users (Alam, 2006).

In the context of public services, a growing body of literature on this 'innovation journey' has begun to provide an understanding of the key elements of this journey – its triggers and environmental and institutional contingencies, the characteristics of innovative public service organizations (PSOs) and entrepreneurs, and the interplay between these factors (e.g. Borins, 2001; Hartley, 2006; Osborne and Brown, 2011b; Osborne *et al.*, 2008; Piening, 2011; Van Buuren and Loorbach, 2008; Walker, 2006).

The latter parts of this innovation journey, identified by Van de Ven *et al.* (1999) as development and implementation, involve new ideas or projects being tested, evaluated or piloted for wide-scale adoption. It is at this stage of the innovation journey that *risk* becomes a core issue to be resolved in successful innovation: even if evidence of effectiveness has been proven elsewhere, will the new service, good or process, together with its local adaptations, deliver its intended outcomes – and will it be accepted by service users, the media, politicians and/or the public? As Borins, above, has argued, such scrutiny of public services has often been counterproductive to the evolution of a suitable framework that acknowledges risk as a necessary as part of innovation and which seeks to offer a grammar and language with which to negotiate its presence and management with the core stakeholders to a service. The conundrum is thus that the effective management for the innovation journey requires an active acceptance and engagement with risk – yet current approaches to risk management within public services are not concerned with such engagement but rather with the minimization of the presence or effects of risk. This conundrum is addressed below.

RISK AND INNOVATION IN PUBLIC SERVICES

The locus of risk in innovation in public services

A further complication which is by no means clear from the literature is the relationship amongst different types of innovation, types and levels of risk and appropriate risk management strategies. For example, do some radical innovations demand greater levels of change by individuals thereby generating higher levels of risk? Do some straightforward technological innovations where evidence of effectiveness is strong require less sophisticated approaches to managing risk? Whilst no simplistic correlation of types of risk to types of innovation can be formulated, however, it is possible to clarify where risks may fall as part of the innovation process. Depending upon the innovation this might be a direct risk to service users (e.g. an innovative approach to brain surgery), a risk to the legitimacy of the PSO or professional staff involved in the innovation (e.g. family group conferencing), or even a risk to the wider community (e.g. the risks involved in treating people with significant and potentially dangerous mental health problems in the community). Other stakeholders could include government, political parties, the media, trade unions and carers. The locus of the risk is vital in considering how to approach its governance. At this stage therefore, it is necessary to be clear about the type of risk involved in public service innovation. We term these three types of risk, respectively, *consequential, organizational* and *behavioural* risk (Table 1).

In this context, it is important to recognize that many PSOs deliver services to vulnerable individuals and/or their carers. A *consequential risk* can thus develop when deviating from established methods or experimenting with new ways of doing things. Such activities present a risk, not solely to public resources and organizations, but to people's health and well-being. The risk in this case will be direct to the service user, as in the example above. Second, in terms of *organizational risk*, this encompasses the introduction of new approaches to addressing existing needs, as in the example of community care above. For PSOs and professionals involved in the assessment of risk and delivery of such community care services, the risk here involves vulnerable individuals remaining living independently for longer than they might have been able to. The balance here between risk and benefit is relevant not only to the user and their carers, but also to the reputation, legitimacy and possibly sustainability of a PSO and its staff. Many areas of public services, such as social care, have become highly regulated and driven by inspection, audit, performance management and targets which militate against both taking risks and promoting innovation (Hood and Rothstein, 2000; Munro, 2010). With the careers and reputations of PSOs and individuals at risk, it could be argued that the regulatory state has developed in part to prevent individuals and organizations taking risk (Jayasuriya, 2004). In turn, this leads to a system where staff are more likely to conceal errors – as opposed to identifying them and learning from them.

The final locus of risk is what we call *behavioural risk*. In this case not only might individuals, professional staff and PSOs be at risk, but also the wider community. Changes in the treatment of people with a mental illness, whilst offering a more appropriate response to their needs, can undeniably lead to risks to other people in the

Table 1: Classification of locus of risk

Locus of risk	*Nature*	*Classification*
Individual	Direct risk to service user	Consequential
Service staff or PSO	Risk to professional or organizational reputation and/or legitimacy	Organizational
The community ('of interest' as well as 'of place')	Risk to the stakeholders surrounding a service and/or the wider community	Behavioural

community (including both distress to uncomprehending relatives and possible physical dangers to others in the community). The failure to acknowledge and discuss these openly has often undermined the implementation of these approaches in the past.[1]

Managing risk and innovation in public services: extant public policy

The types of risks that occur and have to be managed by government within a public policy context are many and varied – industrial accidents or service failures (the Bhopal catastrophe or air crashes), natural disasters (flooding), public health risks (flu pandemics), direct risks to security (terrorism), economic risks (the banking crash), the failure of established systems (child protection tragedies) and the risk of damage to reputation (of PSOs or professionals associated with the above risks). Such risk and uncertainty is certainly not new, yet its management has inevitably generated increasing tension between government and citizens, whilst the media has evidenced an enduring interest in 'public service failure' as newsworthy (Borins, 2001).

Such risk is inherent to current policy innovations, such as the UK Coalition Government's espousal of the 'Big Society', with its espoused commitment to greater levels of volunteerism, community and user involvement and more arm's length regulation. This shifts responsibility towards individuals and away from the state so increasing the risks falling to non-professional, often unqualified, members of the community. This discourse can furthermore be seen in other UK Coalition policies – for example, the 'Vision for Adult Care' Paper (DH, 2010). Whilst this recognizes the need for government to maintain responsibility for the welfare and safety of those adults who are particularly vulnerable, perhaps individuals with learning disabilities, it argues that it is necessary

> People tell us that they want more choice and control. A modern social care system needs to balance freedom and choice with risk and protection… Risk management does not mean trying to eliminate risk. It means managing risks to maximise people's choice and control over services. (DH, 2010: 25–6)

Yet it is never made clear how this balance is to be achieved, or what levels of risk and failure will be considered appropriate. The UK DH recommend that risks are 'fully discussed and understood' (p. 26) – however they do not indicate how this process should be managed or which stakeholders should be included, preferring instead to assert a 'proportionate approach to the management of risk' (p. 27), though again it is by no means clear what a 'proportionate' approach might look like.

If the broad policy context for risk and public services is disappointing, there is little more of substance in the policy guidelines in relation to innovation and public services. Encouragingly, the UK Cabinet Office has argued for the need to combine 'softer judgments, such as the social aspects of risk' alongside harder, technical, evidence on risk (2002: 35) and proposed a framework for managing risk in government departments that considers a range of stakeholders and looks for ways of involving stakeholders in the process. However, this important document fails in two respects – its fails to provide any realistic framework for the actual negotiation of risk for public services and it fails to address the issue of the implementation of any such approach. Without such a framework or implementation strategy, its assertions, however optimistic, become mere rhetoric.

This lack of a coherent conceptual framework of risk and innovation for policy or a concern for implementation is apparent in much subsequent public policy discussion. The UK Cabinet Office (2008) itself reiterated the centrality of innovation to public service reform and for the development of 'world class public services' in the UK, although failed to move far beyond this rhetorical position. Even National Endowment for Science Technology and the Arts (NESTA) and the Young Foundation, with their ideological commitment to innovation in public services (NESTA/Young Foundation, 2008), have little to say upon it, beyond that the challenge for public services 'is to manage risk, not eliminate it' (Murray *et al.*, 2010: 147) and that 'managed and informed risk-taking is [to be] encouraged' (Harris and Aldbury, 2009).

It is true that some government guidance does exist at the broadest level (e.g. HM Treasury, 2004; NAO, 2000) – the National Audit Office (NAO), for example, argued that '[r]isk taking and innovation are consistent with the careful and proper control of public money'. Yet little is available on the specific challenges of balancing risks and benefits in the innovation process. The approach invariably reverts to the actuarial principles of risk minimization rather than one that consciously negotiates levels of risk and benefit amongst different stakeholders in relation to public services (see, for example, NAO, 2000). The one area where the NAO has tried to take a more sophisticated approach to risk is in its guidance and evaluation of Public Finance Initiatives (PFI) projects (e.g. NAO, 2001, 2008, 2010). This approach does recognize the existence of the different locus and stakeholder groups in relation to innovations in public services. However, research on the implementation of this approach has also indicated the familiar refrain that there has been little such engagement of these stakeholder groups in practice (Foo *et al.*, 2011).

The Audit Commission (2007) has also provided an important framework for innovation by local authorities in England. This acknowledges the importance of risk in the innovation process – yet offers little guidance, beyond exhortations that risk management is 'critical in keeping innovative projects on track' and that local authorities believe that it is 'making an increasing contribution to the delivery of innovative projects' (p. 40). Finally, the important UK White Paper *Innovation Nation* (DIUS, 2008) noted that current public policy could often create a 'heightened aversion to risk' in public services (p. 72) – but again offered no concrete suggestions on responding to this, beyond a role for the National Audit Office in reviewing risk management and innovation in central government departments. In Scotland, the recent strategic framework for innovation (Scottish Government, 2009) worryingly made no mention of the management or governance of risk in relation to innovation in public services.

On the provider side, the Public Management Risk Association (ALARM) has produced a broad strategic framework for risk management in public services (Williams, 2009). This does recognize the importance of the negotiation of risks in public services. However, ALARM itself also adopts an explicit actuarial and risk minimization approach to public services on the basis that risk incurs an unnecessary financial burden on public services and hence that 'reducing total losses as well as mitigating the effects of those which do occur' is the core of effective risk management (http://www.alarm-uk.org/about_us.aspx). Whilst highly appropriate in the context of the due accountability for the use of public resources, such an approach offers little to the management of innovation in public services.

Existing research on risk and innovation in public services

Given this identified gap at a policy level, one possible resolution might be to turn to existing public management research to offer the appropriate public management concepts and tools to develop an appropriate and coherent approach to risk and innovation in public services. However, and not withstanding our own enduring calls for this to be addressed (Brown, 2010; Osborne and Brown, 2011a), there is a disappointingly small literature on managing risk and uncertainty – *and none that directly addresses innovation in public services*.

Only four substantive pieces concerned most broadly with risk and public services were encountered by these authors in their extensive literature review (Harman, 1994; Hood, 2002; Lodge, 2009; Vincent, 1996). Harman (1994) argued that risk management has in effect lessened the accountability of public services and opened up more opportunities for fraud, whilst Vincent (1996) has suggested both that risk-taking was different in the public from the private sector and that public service managers faced far greater public scrutiny of their risk-taking than did their private sector counterparts. He also considered that risk management within public service was concerned primarily with (insurable) liability for service decisions within a decentralized state, and with public organizations seek to '"cover" themselves from public scrutiny and accountability'. Most recently, Hood (2002) has questioned the extent to which the focus on risk in contemporary western society is actually concerned with the attribution of blame (for mistakes and outcomes) rather than the management of identifiable risks. When risk in service decisions is actually explored, he argues, it is invariably within a professional context, such as in governmental research (Leung and Isaacs, 2008) or social care (Munro, 2009), rather than within public or social policy.

One study that moves beyond this absorption with blame is that of Lodge (2009). Whilst not addressing the question of innovation directly, he recognizes the complexity and ambiguity involved in managing risk in a public policy context, and the different types of risk that both central and local government face. His work supports our view that different types of risk will require different management or governance responses and what he terms 'variations in instruments' (p. 399). Lodge helpfully raises the issue of governance and risks associated with third party delivery of public services. With the UK Coalition Government articulating an agenda of greater choice, range of providers and devolved powers, this pushes issues about accountability and the management of risks to the fore. Lodge argues strongly for a move away from a preset list of rules for risk management, arguing that this 'tick-box' approach can lead to non-innovation. He clearly highlights many of the risk governance and management issues inherent in a public service context and urges the development of models to move beyond simply condoning failure, celebrating leaders and the 'tired dichotomies between allegedly ''technocratic'' and ''democratic'' ways of conducting risk assessment and management' (2009: 406).

TOWARDS A HOLISTIC FRAMEWORK OF RISK AND INNOVATION IN PUBLIC SERVICES

This section will commence by offering a holistic framework for understanding risk and innovation in public services, and by presenting a typology of existing approaches to risk and innovation in public services within this framework. On the basis of this review, it will then propose a new approach to conceptualizing risk in innovation in public services, and that draws upon the work of Renn (2008).

The starting point for our approach is that a realistic framework for understanding risk and innovation in public services has to be based within a systems approach that explores the interaction between PSOs and their policy and service environment. Scott (1992) differentiates amongst closed systems (that do not require any external interaction to achieve their goals), natural systems (that require external interaction though in a linear and unidirectional fashion) and open systems (that require two-way and iterative external interaction in order to achieve their goals).

> *Our initial proposition is therefore that PSOs require a mix of all three approaches to risk, for two reasons.*

Firstly, the increasingly fragmented delivery of public services within the postmodern state (Haveri, 2006) means that it is often no longer always possible for PSOs to achieve their goals in isolation. A mixture of closed, natural and open systems approaches is needed. This interactive nature of the plural and pluralist state, for example, requires that they work frequently and explicitly as open systems in order to achieve these goals. As argued elsewhere, and notwithstanding the extensive work on public governance (Osborne, 2010a), public management theory requires to adopt new conceptual and theoretical lenses in order to explore this evolving phenomenon (Osborne, 2010b, 2010c). Secondly, the most recent theory on innovation argues for utilizing an open systems approach to its appreciation, and one that privileges organizational collaboration rather than competition (e.g. Brown and Duguid, 2000; Chesborough *et al.*, 2006; Martins and Terblanche, 2003). One area where this approach has had a profound effect upon innovation theory is in relation to the role of service users as co-producers in innovation (Alam, 2006; Von Hippel, 2006). This implies that PSOs will have to adopt explicit natural or open systems approaches to innovation in public services, rather than relying on closed ones alone. However, its import for risk and innovation is as significant, as will be argued below.

Situating risk within this framework

Most prior conceptualizations of risk usually include an element of probability that an event might happen and that there will be gains and losses associated with it (Breakwell, 2007). Implicit in this approach are three elements: human activity, outcomes and a degree of uncertainty (Rosa, 2003). A recurrent theme is also the differentiation of 'risk' and 'uncertainty' – risk being decision-making in the context of known options and their likely outcomes, and uncertainty being decision-making in the context of unknown options and outcomes. A significant element of current approaches to risk is concerned with converting such unmanageable uncertainty into known risks that can be managed subsequently (e.g. Covin and Slevin, 1989; Hoti and McAleer, 2006). This differentiation has significant implications for the place of risk in innovation in public services.

Much of the prior risk management theory that has been applied to public services derives from two sources. Both are professionally dominated in their approach to risk. The first is the actuarial literature that is concerned with minimizing the presence of risk for an organization and its consequent costs – *the risk minimization approach* (e.g. Stulz, 1996). Such approaches start invariably from an assumption of the avoidability of risk, leading to strategies that tend to be cautious and move forward in ways intended explicitly to eliminate, reduce or curtail risk exposure. Risk is here seen as a negative condition to be avoided. Such minimization approaches are highly appropriate for risk associated with, for example, the spillage of toxic materials. In relation to the above systems framework, risk minimization is very much a closed systems approach. It assumes that risk is something internal to an organization and that it can be managed through internal processes.

The second approach derives from the health and safety literature that acknowledges the inevitability of risk but seeks to limit and manage its consequences for organizations – *the risk analysis approach* (e.g. Rasmussen, 1997). This latter approach comprises three elements. 'Risk analysis' is the overall process organizations or individuals engage in when considering a pending risk, as a way to shift (unmanageable) uncertainty towards (manageable) risk. 'Risk assessment' is the consideration of the possible outcomes of a risk and their options to deal with these. The eventual solutions or processes put in place to address the results of a risk assessment constitute 'risk management' (HSE, 2006). Risk management is thus actually only one part of an integrated risk analysis process – though as we argue below, in the public service context it has come to dominate the overall process inappropriately. Such approaches are commonly and appropriately used in relation to the management of workplace hazards. Again, in relation to our meta-theory, this approach is a natural systems one. It does acknowledge the interplay between the organization and its environment, but as a process that can be managed in a linear and unidirectional fashion.

This generic approach to risk clearly has its place, for both private and public organizations. This can also be the case for innovation in public services, as we will argue below. However, we will also argue that whilst it is a necessary approach, by itself it is not a sufficient approach to innovation in public services. It ignores the inevitability of risk for many public service (indeed, any) innovations and places too great an emphasis upon its negative connotations. If one is considering an innovation in service delivery to adults with learning difficulties, for example, which might improve their quality of life but at the cost of great personal risk, then a simple risk minimization approach would militate against the possibility of such ‘risky’ innovation. Even a risk analysis approach would be too limited, ignoring the possibility of multiple and conflicting views on the balance between risks and benefits in such an innovation (for example, amongst different groups of professionals, service users, their families, and even the local community). In such a situation, professionally dominated decision-making alone is not enough. To put it simply, this places the locus for risk firmly at the organizational level (Table 1), yet successful implementation of this policy and negotiation of its accompanying risks would actually require an approach which combines this with both the individual and behavioural level. Not only does this spread the risk (of failure) more broadly, but it also allows an important debate about the reframing of the service task and its implications.

> *Our second proposition is therefore that current approaches to risk management in public services are not ‘fit for purpose’ in relation to the more complex case of innovation in public services.*

Consequently, an alternative approach must be derived.

This more complex situation requires neither the minimization of risk nor the domination of the decision-making process by professionals – but rather the negotiation of the potential risks of an innovation against its potential benefits. Such an approach to risk is not one possible within a closed or natural systems framework. It requires an open systems approach that acknowledges the fragmentation of both the knowledge base and the task, as well as the need for iterative interaction across a range of partners for successful implementation.

Fortunately, there is no need to develop such an approach entirely from first principles, as theoretical constructs exist already, even if they are absent from the current discourse on innovation in public services. Titterton (2005), for example, recommends viewing risk-taking as a positive process, focusing on the potential benefits that might arise from risk, not only the negative consequences, and constructing a dialogue across all stakeholders about the social construction of what constitutes a risk, and about what level of risk (and in what locus) the key stakeholders are prepared to bear, for what level of benefits. This approach is important and has been developed further by Renn (2008; see also Borraz, 2010).

Our third proposition is hence that a meaningful framework for understanding and dealing with risk and innovation in public services must be one that understands the necessity of considering the benefits as well as dangers of any given risk in the decision-making process surrounding it.

This also requires consideration of who the key stakeholders might be for any given innovation. Dependent upon the nature of this innovation, these stakeholders might be technical or professional alone, might be politicians and might include a wider spectrum of service users, carers and community interests. Renn (2008) adopts an unequivocally open systems approach to this task in his approach to risk, which focuses on its governance in pluralist environments rather than its management within individual organizations. This governance rather than management approach is the one adopted here and the work of Renn forms the starting point for our approach. This is to develop a holistic framework of risk governance within which risk minimization and risk analysis are the first two modes of governance. Based upon Renn's work, we subsequently develop a third mode of governance, within an open systems framework.

A central tenet of Renn is that risk in complex circumstances is rarely an objective 'given'. Rather the nature of risk is socially constructed by its participants. All these participants have the potential to trade off given levels of risk specified levels of benefit (personal, organizational or societal), and these benefits can be conflictual or contested – to paraphrase a cliché, 'ones person's risk is another's opportunity'. Human bounded rationality (Simon, 1982), of course, suggests that individuals rarely act in such a rational manner. Renn hence offers a framework for the explicit governance of such socially constructed risks across the range of stakeholders engaged in the risk-taking activity.

In developing this position, Renn posits three approaches to risk management and governance. The first two correlate strongly with our risk minimization and risk analysis models above. The first approach is *technocratic risk management* that relies upon expert decision-making to minimize the risk of any action and which equates to the closed system risk minimization approach identified earlier. He criticizes this approach for failing to take account both of the context and limitations of scientific evidence and of the bounded rationality of human decision-making, as well as the extent to which risk and acceptable levels of risk are socially constructed rather than objectively defined.

The second approach is *decisionistic risk management*, which combines this scientific input with political decision-making, opening up the process to a potential negotiation of the benefits and consequences of identified risks. This equates to the natural systems risk analysis approach above. However, even this approach is limited in its linearity and the extent to which it fails to open up the debate about risk to all the key stakeholders, rather than to politicians alone. All too often, Renn argues, politicians can substitute their own perceptions of risk for those of all the stakeholders.

In counterposition to these two approaches, Renn argues for a third approach to risk – *transparent risk governance*. This, he argues, is the core of a genuine engagement with the nature, perceptions and contested benefits of risk in complex situations. Like Borraz (2010), he argues for a shift away from expert-based technocratic solutions and politician-based decisionistic solutions to a more inclusive and transparent approach. He argues that where once the voice of experts or politicians was deemed sufficient in making a scientific assessment of risk, new Information and Communication Technologies (ICT)-enabled information channels are both opening up existing decision-making processes to new public scrutiny and enabling a plurality of voices to engage in debates about the governance of risk. This new environment requires an explicitly open systems approach to its governance.

> *Our fourth proposition is thus that risk governance, rather than risk minimisation or management, is the appropriate framework for understanding and negotiating risk in innovation in public services.*

This subsumes the prior approaches above (technocratic and decisionistic risk management) within it but goes beyond them to include transparent risk governance. This latter approach explicitly views public services as open systems and acknowledges the necessity of an inclusive approach to all stakeholders in order to produce a more sophisticated analysis and framework for dealing with risk in innovation in public services.

Such an approach has a deal of resonance with the 'digital era governance' framework (Dunleavy *et al.*, 2006; see also Bekkers *et al.*, 2011). They posit that the New Public Management movement marginalized and disadvantaged citizens and service users and adversely affected their capacity to self-organize in responding to social and societal problems. In contrast, they argue that the wave of ICT-led innovations (including web-2, crowd sourcing and social networking advances) of the last decade now have the potential both to open up the decision-making process on public services and to re-engage with users and citizens.

We would argue that the inclusion of an open systems, transparent risk governance, mode is a qualitative improvement in our understanding of risk in innovation in public services. It moves the debate beyond simple risk minimization or management and towards an information-rich and interactive process that allows the articulation, negotiation and (potential for) resolution of the often contested views about the outcomes of innovations in public services. In doing so, it addresses the theoretical contentions of Lodge (2009), for a more sophisticated approach to theorizing innovation in public services, and of the UK Cabinet Office (2002), for a more inclusive and dynamic approach to risk in innovation in public services.

Integrating the elements

Drawing the prior discussion together, we now have all the elements of a holistic model of risk governance in relation to innovation in public services.

Our fifth, and final, proposition is consequently that there are three potential modes of responding to risk in innovation in public services within a closed, natural and open systems framework. These are, respectively, a risk minimisation mode, based upon technocratic decision-making, a risk analysis mode, based upon decisionistic decision-making, and a risk negotiation mode, based upon transparent risk governance.

It would be both simple sophistry and unrealistic to expect one mode to respond to all forms of risk in innovation. Different types of innovations will carry different forms of risk – one size does not fit all! The task still remains, therefore, of relating these modes of risk governance to differing forms of innovation in public services. One possible way forward is to utilize the typology of innovation in public services developed by Osborne (1998b). This enables innovation to be classified across two dimensions – the extent to which they meet new or existing needs and the extent to which they utilize new or existing skills and capacities within PSOs. Building upon the innovation studies literature and for this purpose Osborne (1998b) has highlighted three types of innovation: *total innovation* (where both a new need is being addressed through creating new organizational skills or capacity), *evolutionary innovation* (where existing needs are being addressed through new or improved organizational skills or capacity) and *expansionary innovation* (where new needs are being addressed through existing organizational skills or capacity).

Integrating these elements together provides a novel and, we would argue, truly authentic framework for a better and more holistic understanding of risk in innovation in public services. This is presented in Table 2. Thus, evolutionary innovations, in the first instance at least, are likely to require a risk minimization mode involving the technocratic assessment of the risks involved. At the most general level, the introduction of community, rather than institutional, care for elderly people is probably the most classic example of such an innovation. This was an existing need and user group – but new organizational skills and capabilities needed to be introduced in order to address it in a new way – new staff skills, forms of service and technology.

Table 2: A holistic framework for risk governance in innovation in public services

	Mode of risk governance		
Type of innovation	Risk minimization (technocratic) {Closed system approach}	Risk analysis (decisionistic) {Natural system approach}	Risk negotiation (transparent governance) {Open system approach}
Evolutionary	×	×	×
Expansionary		×	×
Total			×

A simple example here would be the introduction of pendant alarms for older people, addressing the existing needs of older people wanting independent living – but through a new organizational capacity. The assessment required in this case was an analysis of the extent to which the pendants did the technical task that they were intended to do. In terms of the types of risk identified in Table 1, the risk here was primarily an individual one, in terms of the alarms not being 'fit for purpose'. Of course, as such evolutionary innovations are 'rolled out' to greater numbers of people they can begin to challenge both the broader pattern of existing service provision and even the prevailing formulations social needs to be addressed. At this stage, they may then require a more sophisticated approach to the risks concerned, involving the engagement of politicians and professionals in making decisions about resource allocation across the service as a whole. In either of these cases, however, full risk negotiation would probably be too top heavy, and expensive, an approach for such innovations. The social needs/ends are uncontested and the technology (relatively) uncontroversial. Needles to say, if these needs/ends did become contested, then there might even be a case for a further escalation to risk negotiation.

An example of expansionary innovation could be the innovative transfer of therapeutic methods from working with young offenders and to work with adult offenders (previously considered to have different needs and requiring different approaches). Such an innovation would involve a level of (at least) professional and political decision-making – about whether the risks involved in transferring organizational skills from one area of need to another were justified and would lead to increased efficiency and/or effectiveness (and especially where the innovation might result, at least initially in increased public costs). Dependent upon how contested the needs or means might be, they could also benefit for a risk negotiation approach. Where the risks were primarily individual and organizational, and hence unlikely to be contested at a societal or community level, then risk analysis would be the appropriated response. However where behavioural risks were likely (because of the sheer size of the innovation or because its ends or means are contested), then risk negotiation would be appropriate.

Finally, total innovations would almost certainly always require a risk negotiation approach – because of their novelty and because of their implications (and risks) for individuals, organizations and society. The development of innovative responses to the 'newly discovered' needs of people with AIDS or who were HIV positive, during the 1980s, is a good example of where such a risk negotiation approach would have been highly beneficial – and where arguably the lack of one hampered the growth of appropriate services (Worthington *et al.*, 2005). Such multifaceted innovations would involve a complex combination and interaction of individual, organizational and behavioural risks. Risk minimization and management approaches, as the evidence suggested in this case, will be counterproductive to the development of innovative public responses to new societal needs (Worthington *et al.*, 2005).

In summary, the approach to the governance of risk in innovation in public services that we have presented here is one, we believe, that provides both a more holistic and integrated understanding of the nature of these risks and a framework to guide a more appropriate policy and practice orientation towards it in the future. We will conclude first by exploring a possible process for the application of this framework in practice and then by highlighting a research agenda deriving from this conceptual development.

RISK GOVERNANCE IN PRACTICE

Based upon the above, we would argue that a risk governance approach to innovation in public services is possible and that this will both respond to the new information-rich but fragmented world of postmodern public services and enable their contested means, benefits and risks to be negotiated across their multiple stakeholders. Based upon the foregoing, we would suggest a five-stage implementation process for such risk governance. These stages are presented here in a rather linear fashion – though, in fact, they invariably overlap and may be iterative, and cannot easily be separated out.

Stage one is to identify the type of innovation that is being implemented and to adopt an appropriate mode of risk governance that is dependent upon the nature and type of innovation. As argued above, different risk governance modes will be required for different types of innovation and different types of risk. We would emphasize that we do not propose any normative differentiation between these modes of risk analysis – risk negotiation is not necessarily 'better' than technocratic risk management – simply more appropriate to certain types of innovation and level of risk. As will be apparent as we explore the implementation of this framework, not all public service innovation requires the same mode of risk governance and transparency. The key is, therefore, to establish the appropriate mode of risk assessment for each category of innovation and to establish a clear procedure for each mode.

Stage two is to be explicit about the type of risk, and where it falls. As discussed above (Table 1), the risks of innovation can be located in one of the three domains – or indeed, often a mix of the three domains. The risk can be *individual*, involving a direct risk to service users (e.g. an innovative approach to brain surgery), *organizational*, involving a risk to the sustainability or legitimacy of the PSO or professional staff involved in the innovation (e.g. family group conferencing), or *behavioural*, involving a risk to the wider community and stakeholders (e.g. the risks involved in treating people with significant and potentially dangerous mental health problems in the community). Clarifying the locus of the risk is vital in considering how to approach its governance.

Stage three is to gather together all available information about both the risk and the potential or perceived benefits and outcomes of the innovation. Having previously identified the nature and characteristics of the innovation, the appropriate mode of governance and the type of risks involved, this stage concerns gathering information and evidence and linking them to possible outcomes. As one moves towards a more negotiated and less technocratic or decisionistic approach to risk governance, an acceptance of different types and levels of evidence is required, as well as a recognition of the extent of existing evidence and its limitations. In areas of truly innovative and novel service development, the evidence base may not be research based but rather what is known about 'good practice' or 'best practice' (Slowinski and Sagal, 2010). In weighing up this evidence (or lack of it), professional judgement will also be required about the likely outcomes as well as a reflection upon any specific experimentation or piloting of innovations that might assist this process. It would be important for PSOs to look for ways in which experimentation can be used to help inform the level of risk that an innovation might pose (as an aid but not as a substitute for the overall decision-making process).

For innovations requiring technocratic risk governance alone, it may well be that the process will end here. For those requiring decisionistic or negotiated governance, though, two further stages are necessary.

Stage four is to establish a collaborative process that can enable negotiation to take place with the broad range of stakeholders (above), to reach a shared understanding of acceptable levels of risk, including acknowledging and attempting to resolve contested views. Decisionistic governance will limit this collaboration to organizational and political partners, whilst negotiated risk governance will require a more broad inclusion. This stage would also require developing a clear strategy for implementation – including required changes to organizational and individual behaviour. This is one of the most important, and potentially challenging, aspects of the holistic framework, as it does recognize the need to negotiate the construction of what constitutes a risk, its locus and the balance between the risk and (potential) service benefits of the innovation. By their nature, any benefits of an innovation to public services are always potential, and often contested. In addition to risks associated with an innovation in its own right, there are also 'second level' risks – that an innovation may fail, may not deliver its intended benefits or may have unintended consequences that outweigh its benefits.

Without this stage, the nature of more complex risks can remain unclear but threatening, increasing the likelihood of resistance to an innovation due to fear and misapprehension (see, for example, Kinder, 2000). The full range of stakeholders has to be identified and engaged in an open debate about the nature and type of risk involved in an innovation, set alongside the expectations about potential benefits. In moving through engagement and participation, a collaborative forum for the discussion of risk and consultation processes with all stakeholders, including the public, will be critical. This will need to involve a shared understanding and education about the main risks and uncertainties that will have to be explored, alongside agendas of rights, choice and control. The risks will need to be clearly labelled and debated publicly, weighing up the relative risks, costs and benefits until an understanding of shared and acceptable risk is obtained. For each stakeholder, the risks involved for them will need spelling out – whether personally, reputationally, politically or even financially. These issues will be returned to below.

In proposing this approach it is acknowledged, as Reay and Hinings (2010) have demonstrated that collaborative activities involving disparate actors with different identities and interests are inevitably complex and fraught – even when they have agreed a shared outcome. They suggest that rivalry can exist between actors particularly when some stakeholders wish to maintain the status quo. This could easily occur within a network of stakeholders brought together to debate an innovative programme or public service and the risk it poses. The innovation may well threaten existing power relations within this network or privilege some stakeholders above others (Pettigrew, 1973). It would not be unusual, therefore, for the nature of a risk to be contested or to come up against competing views, with consequent resistance from one or more stakeholders. Reay and Hinings argue that if actors can develop mechanisms for collaboration which allow for the coexistence of competing views, then change is possible (though they also argue that competing or rivalrous views may remain for some considerable time).

This can be especially challenging in a public service context, where short term political considerations and interests might clash with longer term needs to policy or service innovation. Fortunately, tools do already exist to drive such a process forward in a public service context. Crosby and Bryson (2005; see also Bryson, 2004) offer one such model, based on stakeholder analysis. They identify how government can assist with this process through providing enabling and/or legislative frameworks, resources and convening cross-sector groups. They argue that, whoever the stakeholders are within a particular policy context, the change process must be managed through collaboration not imposition. To be successful, they argue, the collaborative partners have to evolve a shared sense of the desired outcome, a clear process set out which prioritizes leadership, trust, good planning, conflict management and the sharing of information and knowledge.

It has to be acknowledged that this stage has clear (financial and time) cost implications. Nor can it ever guarantee success. Negotiating contested viewpoints is inevitably a fraught process. However, for the more complex innovations that require decisionistic or transparent risk governance, it is essential to engage the broadest possible stakeholder community in the negotiation of what level of risk is acceptable for what potential benefits. It is entirely possible that there may be minority dissenting voices to the final chosen route – but the acknowledgement of these will render them more easily to resolution and accommodation than if they are unacknowledged or ignored. Hence, a framework for risk governance which can allow organizations to acknowledge, accept and manage, and not just minimize, risk will need to incorporate clear steps that all can follow. The process should incorporate 'escape routes' for professionals or service users who decide that the risk is too great for them, whilst not prejudicing the innovation in its entirety.

Stage five, finally, is the need to build accountability into the process – by developing and agreeing outcomes with stakeholders in advance and by establishing a mechanism for both formative and summative evaluation. Regular reviews and opportunities for feedback can allow individuals a level of control over the innovation process and the risks involved for them. Crosby and Bryson suggest that

> [q]uantitative studies of progress on various indicators can be combined with qualitative methods, like focus groups, participant observation, and interviews to find out more about what constitutes success for different constituencies and what contributes to achievement of the collaboration objectives. Questions should be relevant to all participant groups. (2005: 16)

Such approaches can and will challenge the existing professional and political cultures of PSOs. They may, therefore, require cultural change to adopt a more 'learning organization' approach (Senge, 1990; Wang and Ahmed, 2003) that is more conducive to open systems service delivery and co-production with service users and the wider community. Such cultural change is never easy however (Colville and Packman, 1996) – but may be an essential prerequisite to further progress.

CONCLUSIONS: A RESEARCH AGENDA

As emphasized at the outset, this is a conceptual paper that has theorized a new approach to understanding risk in innovation in public services. As with any such conceptual approach, therefore, a basic need is to test this out empirically. This requires both retrospective research upon innovation that tests out the extent to which the framework can make sense of the prior range of innovations in public services and the nature of risks that they accrue, and prospective research to explore how the framework can help shape practice in the future. The former endeavour will require both quantitative work, to identify the range and extent of different types of innovation and to test out the types of risk that accrue to them (Andrews *et al.*, 2011), and qualitative, preferably longitudinal, work to explore the processes of risk governance and their implications (Wond and Macaulay, 2011). The latter endeavour will also require a more iterative, action research, approach that will allow the progressive refinement of the framework in action (Huxham and Hibbert, 2011).

Beyond this essential validation and refinement of the model, we would suggest three key research objectives. *At the meta-level*, we need to know far more about the construction of risk in relation to public services, both in general and in relation to innovation: for example, what do different stakeholders understand by 'risk' in relation to public services, do professional, political and other stakeholders understand it similarly or divergent, and what types of social benefits are thought to be legitimate societal gains against their extant risks. Such research would need to be primarily sociological and/or ethnographic in nature (Huby *et al.*, 2011).

At the macro-level, further work is needed to explore the most appropriate governance structures for risk governance. In some circumstances, these will be political bodies, in other circumstances regulatory ones, and in yet other circumstances cross-organizational boards. Some possible models of appropriate structures do exist (e.g. Bryson, 2004; Crosby and Bryson, 2005). Others will need to be mapped in practice or tested out as natural experiments (Margetts, 2011).

Finally *at the micro-level*, formative work is required to explore the processes through which individual users, citizens, politicians, service professionals and other stakeholders will engage in risk governance for innovations in public services. Such engagement is a fraught and contested process, as discussed above, and will pose significant challenges in its own right. It is essential that research and theory seek to make an impact upon such meaningful engagement processes.

At one level, this may simply involve exploring the application of existing theories and model of interpersonal conflict negotiation and resolution (e.g. Hicks, 2011; Wilmot and Hocker, 2007; Winslade and Monk, 2000) with a public service innovation context. However, it will also need to take cognizance of the emerging ICT-enabled digital approaches to governance that will allow user and citizen engagement with public service innovations and their risks, irrespective as to whether professionals or politicians wish this (Kettell, 2008; Margetts, 2006). In a very real sense, these profound ICT-enabled changes in the relationship amongst citizens, users and public services (Bekkers *et al.*, 2011) will require the more sophisticated approach to risk governance and innovation outlined here. The question may thus not be 'how to engage users and citizens in risk governance' but rather 'how can service professionals and politicians engage with users and citizens in the digital governance of the risks of innovation in public services'? This is the real challenge of risk governance for innovation in public services in the twenty-first century.

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NOTE

1 'Community' in this context can include both geographic communities 'of place' and virtual communities 'of interest', of people who share a common need or interest.

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