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INNOVATION IN THE PUBLIC SECTOR: DIMENSIONS, PROCESSES, BARRIERS AND DEVELOPING A FOSTERING FRAMEWORK

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Abstract
Innovation in the public sector is an area that is being looked at by governments across the world to provide solutions to enable the delivery of services to customers. This is against a background of rising expectations, financial constraint as well as changing social, environmental and economic conditions. The pressures that governments across the world face to continue to find new ways of delivering public services has heightened the quest for innovation to be identified, applied and embedded in service delivery [1].

Introduction
There are a variety of approaches to the subject of innovation in the public sector in different countries throughout the world [2][3][4][5]. The reasons why innovation takes place within the public sector have been identified by Lekhi [6] as including responding to challenges about the quality of public services, to attract private investment into public services and because successive governments need to make their mark on public services in to attract votes. Within the public sector there may be little incentive for innovation to take place and few opportunities for those wanting to innovate to do so in terms of access to resources and organisational support. The organisational structures within the public sector are described by Lekhi as 'monopolistic and tightly drawn' [6] where there is no competition which can reduce ambition and lead to organizations developing a risk averse culture. Given the barriers existing in a number of public sector organization to change them to ones that foster innovation different factors need to be developed.

Factors that impact on the development of an environment where creation and innovation can take place within the public sector include strong leadership, project management skills, partnership working and the involvement of service users and elected politicians. Slappendal [7] noted the importance of the link between the individual who creates and the organization that fosters and develops the environment which fosters innovation to take place. Strong leadership in organizations can drive forward change in the culture of the organization and enable the development of an environment that fosters innovation. Leadership can be shown at different levels within public sector organizations from politician, policy maker to senior, middle or operational managers. The environment that the individual works in and the culture within that environment can affect their working life significantly including their productivity and how they contribute to the success of the organization. Pressures in the external operating environment including resource availability and customer expectations impact upon each organization in the public sector and in turn the professional staff employed within those organizations.

Methodology

Dimensions
Hartley [8] identified seven different dimensional types of innovation (Table 1) and provides examples of where this has taken place within the UK. Within the public sector a significant number of these innovations are building upon services, structures or knowledge that already exists, the last two categories are mostly related to the realm of the public sector [8].

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Table 1 – Types of Innovation in the UK [8]

Type	Description	Public Sector Example
Product	New Producers	New instrumentation in hospitals
Service	New ways in which services are provided, new 'scripts'	Online tax self-assessment forms
Process	New procedures, organisational structures, systems	Administrative re-organisations
Position	New contexts, customers or partners	Connexions service for young people
Strategic	New goals, purposes or values	Community policing, foundation hospitals
Governance	New democratic institutions and forms of participation	Devolved government
Rhetorical	New language, concepts and definitions	Charges, carbon tax

In contrast Windrum [9] identified six different types of innovation (Table 2) and identified examples of where this has taken place in the public sector in Australia.

Table 2 – Types of Innovation in Australia [9]

Type	Description	Example
Services	A new or improved service	National Broadband Network - provide high-speed internet access to most of the country
Service delivery	A new or different way of providing a service	Australian Government Business.gov.au website - access to online registration for government services
Administrative or organisational	A new process	Child Support Scheme -administrative approach to assessment of child support through a formula to determine payments
Conceptual	A new way of looking at problems	National Respite for Carers Program - support for carers in addition to that provided directly to those who require care
Policy	A change to policy thinking or behavioural intentions	Higher Education Contribution Scheme (HECS) - access to higher education for all students
Systemic	a new or improved way for parts of the public sector to operate and interact with stakeholders	Centrelink - a completely new approach to the provision of government services to the public

Like the seven categorical types of innovation put forward by Hartley [8] the types identified by Windrum [9] are broad ranging from improved services to completely new services.

Processes

The process of innovation has been described in different ways with a variety of models and frameworks put forward to explain the process. Innovation has been seen as part of a linear process [10], a *journey* [11] but mainly as circular, open and informing process that is non linear. The process of innovation is difficult to define in terms of a starting point, what happens next, how it develops and what the final output is [6]. A number of factors impact on the innovation process, such as: Perception – if an idea is seen as useful/necessary, Greenhalgh et al [12] see innovation as a socially constructed phenomenon, Adoptability – popularity, fashionability and copying others (individuals and organisations) can effect the progress/development of an innovation [13][14][15]. There appears to be agreement within the literature about the core characteristics of the innovation process – the generation of ideas, applying them, disseminating knowledge from them and sustaining innovation. Cutler [16] set out a process of innovation in three stages - knowledge production, knowledge application and knowledge diffusion (Figure 1).

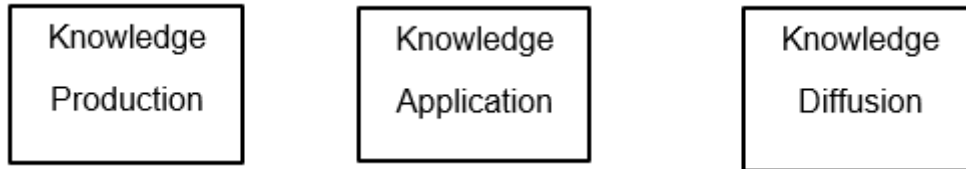INTERNATIONAL JOURNAL OF RESEARCH SCIENCE & MANAGEMENT

Figure 1 – Cutler's three stages of innovation [16]

Cutler's [16] three stages of innovation focuses on the use of knowledge through its production, application and diffusion. The model is basic, seems uniform in its treatment of knowledge (ideas generation and development) and does not acknowledge the continuity or sustaining of innovation. Eggers and Singh [17] developed an approach which has four phases in it and is presented as a cyclical process: idea generation and discovery, idea selection, idea implementation, and iea diffusion (Figure 2).
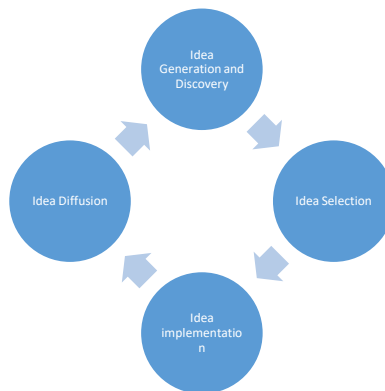

Figure 2 – Eggers and Singh's four phases of innovation [17]

This model is more detailed than the one presented by Cutler [16], enabling aspects of the process to be subject to greater analysis. The cyclical nature of the model allows for the movement of information, knowledge and learning from the creation of ideas to their diffusion. It differentiates the specific use of knowledge within the innovation process unlike Cutler's [16] model in that ideas are created and knowledge is discovered as opposed to being produced. Like Cutlers [16] model it does not include the sustaining of innovation. Within the context of public services, it has been identified that innovation gets lost in the last three phases of the model stopping at the creation of ideas [18]. The National Audit Office (NAO) [1] in the UK identified innovation as having a 'lifecycle' and as dependent or more 'than good ideas' in terms of a need for 'clear drivers and incentives, strong implementation, and means for learning from success' (P 5) which was illustrated with a linear representation within the report. The NAO highlighted the same issues that were identified by the Australian Government regarding the problems of innovation not being taken forward beyond the creation of ideas stage and the need to improve the development, implementation and learning phases.

Building on the four phase model developed by Eggers and Singh [17] the Australian Government in their advisory book on innovation – *Empowering Change: Fostering Innovation in the Australian Public Service* – have added a fifth phase which is focused on sustaining the innovation once it is in place [18]. This fifth phase has been added after the idea implementation phase and before the idea diffusion phase to enable the innovation to be embedded before the learning is disseminated. It is recognition that unlike the commercially driven private sector, the public sector may need help sustaining innovation [19] as well as taking innovation beyond the idea stage [1].

The five phase innovation cycle is seen as a continuous process whereby ideas and learning are always informing current and future activities. The five phases include:
- Idea generation—creating, identifying and adapting ideas
- Idea selection—selecting the ideas that will be used

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- Idea implementation—taking the ideas and applying them
- Sustaining ideas—keeping the innovative process alive, embedding and integrating it into ongoing activities
- Idea diffusion— disseminating the learning, ideas and knowledge
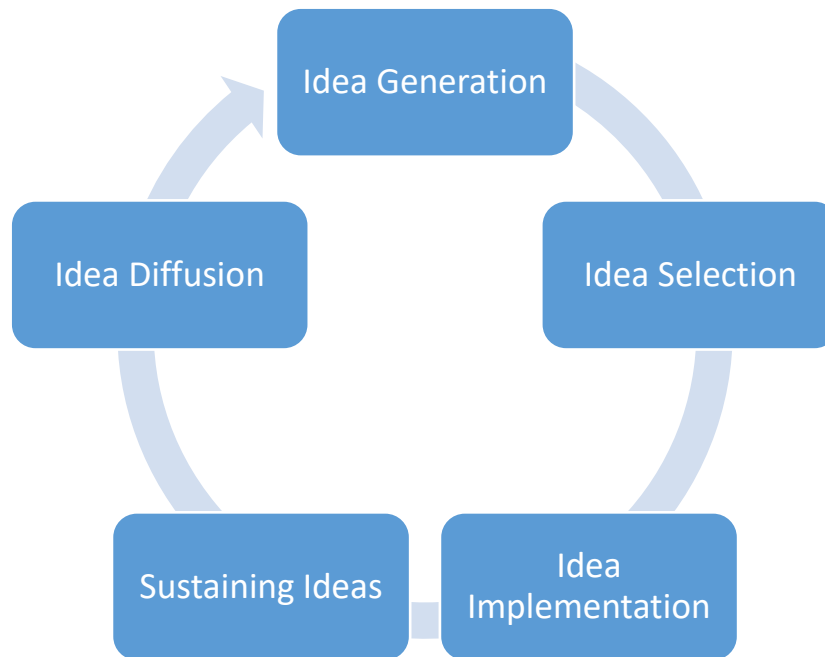

Figure 3 - A five-phased innovation cycle [18]

Barriers

Within the public sector there are some specific significant barriers that impact on innovation relating to the governance and public scrutiny of these services. Governance is directly influenced by the political process and the flow of ideological as well as policy changes that are apart of those processes. These are themselves influenced by the views of the public who in turn consume and scrutinise public services. Innovation can present political risk in the face of tight public scrutiny which in turn contributes to the risk-averse attitudes within organisations that deliver services and support governance structures.

Work within the public section is see by Coats and Passmore [20] in their report as different from the private sector in that organisations operating within the private sector are working within an external environment of competitive markets. The current external environment within which public sector organisations operate include democracy and accountability and are 'characterised by claims of rights by citizens to services that have been authorised and funded through some democratic process' [20]. It can be said that managers in private sector firms seek to maximise the value of their organisations for their shareholders whereas managers in the public sector seek to provide services that are of value to the public.
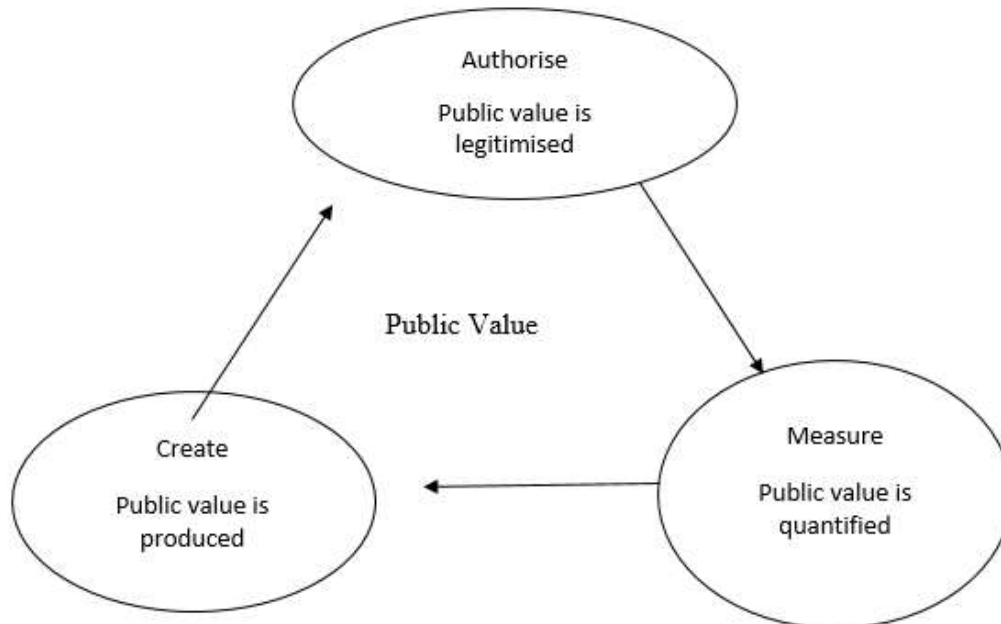
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Public value and external environment

Figure 4 – To show public value and the external environment [20]

During the past two decades in the UK a delivery paradox has arisen whereby objective service delivery indicators identify that service performance is getting better but at the same time public trust in the legitimising systems are declining [20]. It can be argued that the continual change and reform of public services by successive governments has reinforced the idea with the public that those services are poor and in need of further improvement. To quantify how services have improved measurements and targets have been used extensively in recent years. The measuring of service improvements has been seen as a key part of the search for value. Kay [21] regards that it is the experience of the service by the customer that is the most effective way of measuring a service. Customer experience, customer feedback and customer expectations play an increasing role in the consideration of value. Davila et al [22] focus very much on process measures as ways of finding out about improvements within a service. In the target led model of measuring improvement achieving the targets set are seen as measures of success with the targets having been set to reflect specific outputs and standards that need to be achieved. Coats and Passmore [20] see the achieving of targets as the benchmark of success for the public sector manager. For a private sector manager this will be similar in terms of having to meet targets but the targets will usually be focused around sales, turnover or business growth. For the politician the benchmark of success is to be re-elected. Lekhi [6] says that the political dimensions of innovation are more likely to rise as important influencing factor within the public sector than within the private sector. Mintzberg [23] highlighted that political motivation for innovation activity is common to all organisations and these motivations can be difficult to analyse through a rational assessment process. The political dimensions influencing innovation will differ between public and private sector organisations as do other types of influencing dimension such as economic and strategic dimensions which are more applicable to innovation within the private sector.

Barriers to innovation in the public sector have been identified by the Australian Government [17] as;
- Risk aversion
- Failure of leadership
- Resource constraints
- Lack of direction and measurement
- Policy conflicts
- Hierarchical attitudes
- Silo mentality

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- Legislative limitations
- Accountability concerns

The NAO [1] undertook a survey of staff across a number of central government agencies and identified a number of factors that hinder innovation taking place including;

- Management of change
- Staff attitudes towards change
- Media coverage of innovative project
- Accuracy and quality of organisational information (performance/financial)
- Attitude to risk
- How innovation relates to corporate assessment

Some of the aspects identified as barriers to innovation are resultant to the unique role of public services and the pressures put upon them to be accountable, transparent, impartial and to provide value. The Coalition government in the UK, elected in 2010 had identified innovation and risk as key parts in the improvement of public services but this is seen by Brown and Osbourne as rhetoric as in reality there is a 'lack of a conceptual framework of risk and innovation' [24].

Harman [25] identified that risk management has lessened the accountability of public services and opened up more opportunities for fraud to take part. Lodge [26] recognises the complexity and ambiguity of managing risk in the public sector, problems with third party organisations delivering public services and that the tick box approach can lead to non innovation. Hood [27] considers that the focus of risk in western societies is about attributing blame and not managing identifiable risk. Vincent [28] suggests that risk taking is different in the public sector than the private, there is more scrutiny of managers in the public sector than the private sector. Public services in the postmodern state is increasingly fragmented. Brown and Duguid [29] say that a collaborative approach has worked with service users as co-producers of innovation. Brown and Osbourne [24] have said that a risk governance approach to innovation in public services is possible and this will respond to the new information rich but fragmented world of postmodern public services and suggest a five stage process;

1 – Identify the type of innovation that is being implemented
2 – Explicit about the type of risk, where it falls
3 – Gather information about the risks and benefits of the innovation
4 – Establish a collaborative process for agreement between different parties of levels of risk that are accepted
5 – Accountability into the process

Results

Fostering Innovation
An important part of the process of embedding innovative practice into public sector organizations is to engender or foster the right environment and culture for staff to be able to innovate, a process that can take years [18]. Mulgary and Albury [30] see innovation as being a fundamental to public services and the need for organizations to enable their staff at all levels to be innovative have put in place continual development and improvement. They developed a framework for fostering innovation (Figure 5)
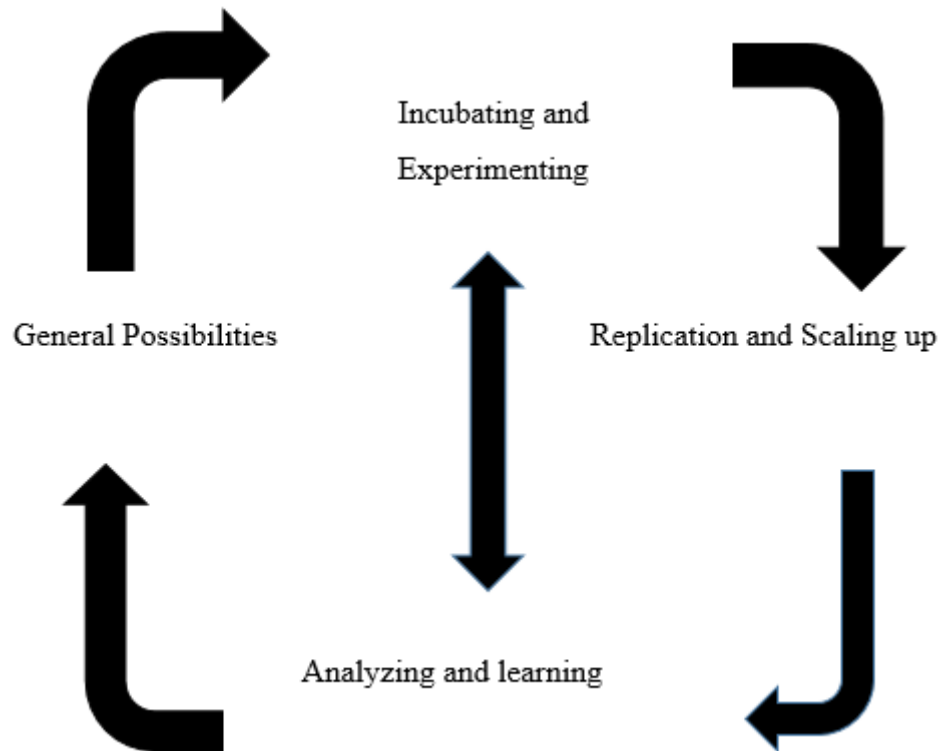
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Figure 5 - Framework for Fostering Innovation [30]

The author's state that the model is basic and 'disguises the complexity and serendipity of innovation in the real world' [30]. Like the models put forward by Eggers and Singh's [17] and the Australian Government [18], it is cyclical but it also presents the flow of information throughout the process as being ongoing and flowing between the elements. The four main elements of the innovation process presented in the model are;

- generating possibilities – this asks how can innovation be stimulated and supported ?

Mulgary and Albury [30] see that the relationship between bureaucratic organisations, innovation and the generation of new ideas is a difficult one with a preference for them to be suppressed rather than developed. In not generating new possibilities these organisations are vulnerable to stagnation but to enable the generation of possibilities more systematic approaches need to be put in place. Under this element of the model Mulgary and Albury [30] identify aspects that can be changed within an organisation to enable the generation of ideas and possibilities including;

- Intensive attention to the views of users, frontline staff and middle managers
- Ensuring a strong diversity of staff and exploiting difference as the creation of new ideas can be generated by new ways of seeing things, new perspectives that arise from different staff perspectives
- Constant scanning of horizons and margins: learning from others, seeing what is working elsewhere
- Developing the capacity for creative thinking using formal techniques to help staff generate ideas
- Working backwards from outcome goals, rather than forward from a position that includes current policies, institutions and processes
- Creating space, within the pressurised day to day working time of staff to allow them to think about innovations
- Research Portal, to provide an area where ideas and knowledge can be stored, accessed and exchanged
- Breaking the rules, through which it is encouraged for staff to break the organisations rules (but in a managed way)
- Competition between teams and staff

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- incubating and prototyping – this asks about the systems that need to be in place to enable innovative ideas to be taken forward and risks managed?

Within the model ideas or generated possibilities are subject to a period of testing and development, in reality these are usually subjected to a selection criteria before time, effort and resource is spent on them. Mulgary and Albury [30] say that sometimes these selection criteria are too high which can stifle ideas and this can be the case within organisations that do not have a culture of innovation embedded within them. Under this element, aspects linked to this include;

- Safe spaces in order to be able to manage any associated risks
- Pilots have been used increasingly within the last two decades to test out new approaches and practices
- Pathfinders are used to extend beyond the scope of pilots usually responding to pressure for a response to an issue through action being taken
- Zones are used to test out alternative models for service delivery and can be designed to suspend the current practices of the relevant agencies in the specific geographical area chosen
- Incubators are aimed at providing supportive resources for ideas to develop
- Modelling
- Simulations are used to test complex innovations with many variables
- Controlled experimentation can be used for ongoing issues that have not been solved by previous approaches
- Funding for early development in order to turn ideas into working models [30].
- replicating and scaling up – this asks about the processes that enable information and learning to be disseminated and implemented?

Following successful testing of an idea or innovation, the model identifies that these are then subject to replication and implementation with the idea launched on a larger scale. Under this element, aspects linked to this include;

- Incentives to encourage staff to innovate either individually or in teams which can be financial or recognition based
- Incentives for organisations
- Peers and collaboration between them
- Scale and innovative capability [30].

The Australian Government [18] have identified ways in which public sector agencies can enable innovation to take place (Table 3).

Table 7 - Ten guiding principles for building innovation in public sector agencies [18]

Ten guiding principles for building innovation in public sector agencies	
Principle	Description
1. Integrate innovation into an agency's strategy and planning	what are the agency's key priorities and challenges, what opportunities do they present for innovation, and how can the need for innovation and its attendant risk be communicated internally and externally
2. Foster and attract innovative people	seek to recruit and nurture people who are motivated to innovate and have relevant skills and capacities
3. Tap into the ideas and experience of stakeholders	build an organisation capable and desirous of interacting with partners, customers and citizens and draw on their innovative potential
4. Develop organisational capacity to facilitate and manage innovation	build expertise and experience in managing innovation in a public sector environment and work to identify and address any unnecessary impediments to innovation that may exist
5. Provide 'safe spaces'	areas and programs where innovation can be channelled, where experimentation is expected and where 'failures' are regarded as legitimate. These spaces should be explicitly

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	identified as testing grounds for ideas that can be expected to carry implementation and political risks
6. Facilitate networking	build communities of practice and networks of trust within and without the APS by which to share experiences of innovation, build partnerships and learn from others
7. Build a supportive culture	reward and encourage innovation and give agency staff both the means and the permission to innovate
8. Use government's influence and advantages to spur innovation	use the government's procurement power, its role as a regulator and its leverage with other jurisdictions to develop and realise innovative solutions
9. Measure and evaluate your results and share what you learn	monitor the return on your innovation investment and evaluate the outcomes; sharing such learning across the public sector will improve the quality and speed of the innovation process
10. Make public information accessible	public sector information and data is a valuable resource for innovation, both internally and externally to the APS and therefore publicly funded data sets should be publicly available unless there is a good reason for confidentiality

The NAO [1] identified a number of factors that help innovation to take place within organisations including;

- Staff who are innovative or creative
- Efficiency savings targets
- External and internal review
- How ideas are supported
- Strategic Objectives
- Attitude to risk

Conclusion

Many governments across the world have faced significant challenges following the financial crisis in 2008 in being able to deliver public services. Innovation has been seen by policymakers and practitioners as a way of finding new ways to deliver services. This could be to improve services and find approaches to deliver them within the financial constraints that they face. Innovation itself has been defined in a number of ways. There are different dimensions to innovation and barriers to the process of innovation have been identified by academics who have also presented aspects to be put in place to foster innovation in organisations.

References

[1] National Audit Office (NAO), (2009), Innovation across central government, London: The stationery Office
[2] Damanpour F, (1993), Organizational innovation: A meta-analysis of effects of determinants and moderators, Academy of Management Journal, 34, PP 555-590
[3] Wolfe R, (1994), Organizational Innovation: Review, critique and suggested research directions, Journal of Management Studies, 31, 3, PP 405-431
[4] Bessant J, (2003), High Involvement Management: Building and sustaining competitive advantage through continuous change, Chichester: Wiley
[5] Moore M H, Sparrow M and Spelman W, (1997), Innovation in policing: From production line to job shops. In A Altchuler and R Behn (Eds), Innovation in American
[6] Lekhi R, (2007), Public Service Innovation, Manchester: The Work Foundation
[7] Slappendal C, (1996), 'Perspectives on innovation in organisations', Organisational studies, 17 (1), 107-129
[8] Hartley J, (2005), Innovation in Governance and Public services, Public Money and Management, Jan 27-34

INTERNATIONAL JOURNAL OF RESEARCH SCIENCE & MANAGEMENT

[9] Windrum P, (2008), 'Innovation and entrepreneurship in public services', in Windrum P and Koch P (eds), Innovation in public sector services: entrepreneurship, creativity and management, Cheltenham: Edward Elgar Publishing Limited, 3–20

[10] Klein JL and Tremblay DG, (2011), Cultural creation and social innovation as the basis for building a cohesive city, Montreal (Canada)

[11] Van de Ven A H, Polley D E, Garud R and Venkataraman S, (1999), The Innovation Journey, New York: Oxford University Press

[12] Greenhalgh T, Robert G, Bate P, Kyriakidou O, Macfarlane J and Peacock R, (2004), How to spread good ideas, Report for the National Coodinating Centre for NHS Service Delivery and Organization, London: NHS SDO

[13] Rogers E M, (2003), Diffusion of innovations, (5th ed), New York: Free Press

[14] Abrahamson E and Goodchild G, (1999), Management fashion: Lifecycles, triggers and collective learning processes, Administrative Science Quarterly, 44, 708-740

[15] DiMaggio P and Powell W, (1983), The iron cage revisited: Institutional isomorphism and collective rationality in organizational fields, American Sociological Review, 48, 147-160

[16] Cutler T, (2008), Venturous Australia: building strength in innovation, Commonwealth of Australia, Canberra

[17] Eggers W D and Singh S K, (2009), The public innovator's playbook: nurturing bold ideas in government, Deloitte Research, http://www.deloitte.com/dtt/cda/doc/content/

[18] Australian Government, (2010), Empowering change: Fostering innovation in the Australian Public Service, Barton ACT

[19] Osbourne S P and Brown L, (2011), Public policy and services delivery in the UK: the word that would be king?, Public Administration, 89-4, PP 1135-50

[20] Coats D and Passmore E, (2008), Public Value: The next steps in public service reform, London: The work foundation

[21] Kay J, (2003), The truth about Markets: Why some countries are rich and others remain poor, London: Allen Lane

[22] Davila T, Epstein M J and Shelton R, (2006), Making Innovation Work – How to manage it, measure it and profit from it, Upper Saddle River (NJ): Pearson Education inc

[23] Mintzberg H, (1989), Mintzberg on management: Inside our trange world of organisations, New York: Free Press

[24] Brown L and Osbourne S P, (2013), Risk and Innovation, Public Management review, 15:2, 186-208

[25] Harman E, (1994), Accountability and challenges for Australian Governments, Australian Journal of Political Science, 29

[26] Lodge M, (2009), The public management of risk: The case for deliberating among worldviews, Review of Policy Research, 26:4

[27] Hood C, (2002), The risk game and the blame game, Government and Opposition, 37:1, PP 15-37

[28] Vincent J, (1996), Managing risk in public services: A review of the international literature, International Journal of Public Sector Management, 9:2, PP 57-64

[29] Brown J and Duguid P, (2000), The social life of innovation, Boston MA: Harvard Business School Press

[30] Mulgary G and Albury D, (2003), Innovation in the public Sector, London: Strategy Unit, Cabinet Office.