Innovation in the Australian Public Service: A Qualitative Analysis

Warit Wipulanusat, Kriengsak Panuwatwanich, and Rodney A. Stewart

Griffith University, Australia

w.wipulanusat@griffith.edu.au

ABSTRACT

Innovation is considered to be a sine qua non to improve efficiency and effectiveness in government and respond to citizens' increasing demand for better services. This paper draws together literature related to innovation in the public sector. A qualitative analysis was conducted to establish the key aspects related to innovation raised by senior managers within the Australian Public Service (APS). This study used content analysis of transcripts from senior manager presentations in Innovation Month seminars from 2014 to 2016. The content indicated senior managers' perceptions of innovation in the APS in terms of four aspects: drivers of innovation; barriers to innovation; innovation characteristics; and typology of innovation. Content analysis revealed that those aspects typically associated with innovation in the APS, such as ad-hoc basis and top-down approach, have been hindered by a number of barriers within the public sector context studied. These major barriers comprise risk-averse culture, hierarchy, and the silo effect. The implications of the findings are discussed to suggest directions for further research on innovation in the public sector.

1. INTRODUCTION

Severe budgetary constraints and an increasing demand for public services are major predicaments of governments around the world (Hawksworth and Jones, 2010). The recent global economic crisis and the rapidly changing and increasing demand from citizens have resulted in a continuous search for innovative initiatives aimed at maximising social welfare, improving cost efficiency, and increasing service quality (Moore and Hartley, 2008). The Organisation for Economic Cooperation and Development (2012) defines the public sector as the general government sector at the national, regional and local levels, as well as all public corporations including the central bank. According to this definition, the estimate of the public sector share of GDP is between 20 and 30 per cent in economically developed countries. In Australia, total government expenditure as a proportion of GDP is around 34 per cent (Australian Bureau of Statistics, 2009). Therefore, the public sector generates a sizable proportion of economic output and substantially more than the share of the manufacturing sector in most countries (Arundel and Huber, 2013).

In the public sector context, innovation is defined as a learning process in which governments attempt to meet specific societal challenges which can be solved by developing new services, technologies, organisational structures, management approaches, governance processes and policy concepts (Bekkers, Edelenbos and Steijn, 2011). This conceptualisation emphasises

that public sector innovation can be comprehended as a desire to create new and meaningful connections between government and society. Public sector innovation ranges from the incremental deployment of enterprise resource planning software in back-office operations, to the more radical implementation of Web 2.0 technologies to transform citizen engagement via the Internet (Varney, 2006). However, while there are a number of success stories, the introduction of innovation in the public sector has often failed (Franza and Grant, 2006). This is not essentially due to the specific innovation but rather because the public sector presents significant barriers to workplace innovation; resistance to change, risk aversion, and hierarchical structure (Borins, 2006).

Over the past decade, interest in public sector innovation has rapidly enhanced due to various causes, identified as follows. Firstly, the public sector must implement innovation in order to respond to the rising expectations of citizens as they compare public services with the improvements in service delivery accomplished by the private sector (Altshuler and Behn, 1997). Secondly, governments generally aim to achieve dramatic cost cutting in order to manage rising debt levels. Given that citizens expect greater public sector efficiency, embracing innovation is a potential solution for this demand. Thirdly, some experts contend that public trust in government organisations has been decreasing as has public sector credibility. In order to boost public confidence in the public sector, innovation should be adopted as one of the means to fulfil this objective (Altshuler and Behn, 1997; Glor, 1998). Fourthly, in the new era of globalization, innovation is a necessary tool for national economic prosperity. Global competition and information technology require governments to transform their operations and address time consuming processes (Miller, 1999). Thus, these four drivers have been the primary forces that have prompted the public sector to focus on innovation as a means of improving productivity and performance.

The rest of the paper is organised as follows. Section 2 provides a literature review of the innovation definition and innovation in the public sector. Section 3 presents our research method using content analysis. This is followed by findings in Section 4, which reports on the key aspects related to innovation in the public sector. Finally, Section 5 provides some concluding remarks, highlighting the implications for both theory and practice, and the main contributions of this paper to the APS.

2. LITERATURE

The relevant literature is reviewed in two parts. Innovation definitions were reviewed to demonstrate their diversity and press the case for the development of an integrative definition. The second part reviews innovation within the public sector context.

2.1 Innovation Definitions

Innovation has been a broad concept for discussions in the academic and practical disciplines with debates about its characteristic, scope, determinants and consequences. The literature on innovation has been studied from several contexts in different scientific fields. It is important, therefore, to clearly understand innovation definitions in order to avoid ambiguous interpretations. The most extensively cited and adopted definitions have been described by the following authors, as presented in Table 1.

Table 1 Innovation Definition Revolution

Author	Definition
Joseph Schumpeter	His pioneering works play a vital role in understanding the meaning of innovation. Arising from economic theory, innovation is described as a broad set of activities that create and implement new combinations (J. Schumpeter, 1926). In a subsequent study, Schumpeter (1934) proposed a list of five types of innovative activities including: the introduction of a new product; the introduction of a new process innovation; the opening of a new market; the acquisition of a new source of supply of raw materials; the revolution the structure of organisations.
Edvin Mansfield	By generalising Schumpeter's idea, he defined innovation as a new product, process, service, or idea that an organisation has utilised for the first time.
Victor A. Thompson	Because Mansfield's definition only determined the first introduction of these items or activities as innovations and names all subsequent usages as imitation, Thompson (1965) modifies the scope of Manfield's concept to the first time within an organisational setting. Similar descriptions have been followed by most consequent studies. For instance, Damanpour and Evan (1992) consider an innovation as the implementation of a new idea at the time of adoption.
Everett M. Rogers	Roger (1983) defines innovations as "an idea, practice, or object that is perceived as new by an individual or other unit of adoption." (p. 11) According to this definition, an innovation is recognised as being such, if it is conceived to be novel by an individual or an organisation. Rogers (1998) differentiates between the definitions of innovation and invention. An innovative organisation is not necessary to develop a novel product. The organisation will be innovative when it acquires the technology or idea from others and effectively implements that novel product or idea. Rogers is also considered as a leading champion of the 'theory of innovation diffusion'.
Andrew H. Van de Ven	Van de Ven (1986) considered innovation as the process of generating a new idea, which may be a recombination of old ideas, translated and put into practice. In practical terms, in this definition the term 'innovation' has similar definitions to previous scholars, but with specific focus on product, process, and organisational innovation activities. Van de Ven further proposes that imitation plays a pivotal role in the innovation process.

It can be summarised that these widely accepted definitions of innovation generally comprise three basic elements: newness, implementation, and process. First, newness normally represents new to the organisation, but it is not necessarily new to mankind. It is only significant that the potential adopter realises the innovation as new which means new to the industry, new to the market, new to the organisation, and new to the customer due to their specific contexts. Second, implementation is a significant activity differentiating innovation from creativity. Implementation is widely accepted as the final step in innovation, which occurs when a new idea is finally employed (Damanpour and Evan, 1992). Sometimes, a

more restricted term, commercialisation, is adopted to explain innovation in order to affirm that innovation should be a profit-driven activity (Fagerberg, 2004). The use of the term 'commercialisation' is reasonably applicable to private sectors where an organisation's purpose is profit maximisation, whereas in public sectors all innovations are focused on effectiveness and efficiency. Third, process explains that innovation is generally a continuous and lengthy process covering both the generation and implementation stages, and one innovation normally involves many interdependent innovations (Fagerberg, 2004). A successful innovation requires consistent support and abilities in the innovation process, which could be either a sequential linear function or a complicated process with convergent, parallel, and divergent activities (Landau and Rosenberg, 1986).

2.2 Innovation in the Public Sector

One of the most important steps in managing public sector innovation is having an appropriate definition for it. However, the innovation definition has been the subject of debates in the literature; so, a literature review of the current definitions of innovation in the public sector gives a better understanding for the purpose of this paper. Mulgan and Albury (2003) defined innovation in the public sector as the 'creation and implementation of new processes, products, services, and methods of delivery, which result in significant improvements in outcomes efficiency, effectiveness or quality' (p.3). Currie, Humphreys, Ucbasaran, and McManus (2008) described innovativeness in a public sector context as the search for creative or novel resolutions to problems and demands, including new services, new organisational structures and improved process. Borins (2006) indicated three eminent types of innovation in the public sector: politically led responses to crises, organisational turnarounds engineered by newly appointed agency heads, and bottom-up innovations initiated by frontline public servants and middle managers. The first of these, crisis response, is relatively rare and unique to public sector innovation. Organizational turnaround-driven innovation is commonly seen when there is a performance gap. The third type of innovation is the most desirable, which is driven not by rule-breakers but rather by people showing leadership in delivering value for their stakeholders.

Competitive advantage, increased market share and improved profits are the main drivers that prompt the private sector to value innovation. Even though the drivers are considerably different, innovation in the public sector is of high policy interest because of the potential to improve the efficiency and quality of government services (Moore and Hartley, 2008). Berry and Berry (2007) postulate that governments imitate each other in regard to four factors: competition; learning; mandates; and public pressures and all these variables have a positive effect on the adoption of innovation. Bekkers *et al*. (2011) contend that innovation represents two different challenges to the public sector. First, the public sector, and subsequently public administration, is regarded as the cornerstone for an innovation-driven economy. With the purpose of making society and the economy more innovative, a public sector needs to prepare and adapt for a novel form of knowledge-based economy. Second, the public sector is required to become innovative in order to confront the challenges facing its future society. Societal threats such as climate change, crime and international economic competition force the public sector to rethink its choice of priorities, solutions and instruments. Moreover, the problems of global crises, aging societies, environmental challenges and permanently unsustainable public finances in most developed countries reveal that failure to innovate in the public sector creates not just imbalances in societies and budget constraints, but also primary challenges to the sustainable development of these countries.

3. METHOD

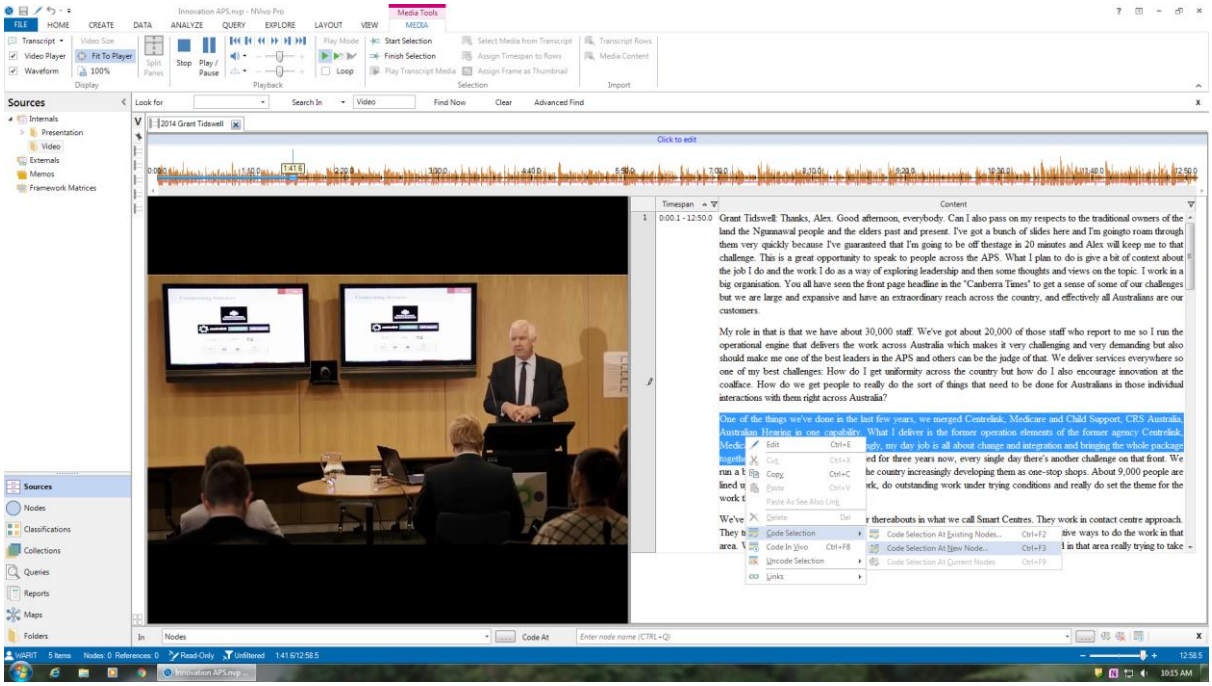
This paper considers transcripts of senior manager presentations in Innovation Month seminars from 2014 to 2016 to be an extraordinarily beneficial source to reflect the viewpoints of informants. The profiles of the presenters are shown in Table 2. These video transcripts have been categorised as a proxy primary source of data because they reflect eyewitness views of practices in the APS. They are free from researcher bias and interpretation and can be used to address the objectives and goals of this research. Additionally, there are valuable insights to be obtained from analysing publicly available data (Saunders, Lewis and Thornhill, 2003). Content analysis was used to analyse these transcripts. This method has been used as a textual data codification and synthesis technique to reveal the deeper meanings of the texts and the latent content, which enriches the interpretation (Neuman, 2005). This study conducted content analysis to systematically code and analyse the qualitative data in these transcripts. Content analysis was employed to understand the implicit and explicit meanings of the content related to government innovation policy and practices in the APS.

Table 2 Details of Presentations for Innovation Month Seminars

Year	Position	Topic
2014	Secretary, Department of Industry Deputy Secretary, Department of Human Services	Innovation Month 2014 launch Leadership or Leadersunk: are new models of leadership needed when it comes to innovation in the Australian Public Service? (Part 1)
	Director General, IP Australia	Leadership or Leadersunk: are new models of leadership needed when it comes to innovation in the Australian Public Service? (Part 2)
	Chief Technology Officer, Department of Finance	Feel the Wind: Set yourself the bolder course.
	Director of Coordination and Gov 2.0	Innovation Month Pattern Breaking Summit
2015	Secretary, Department of Industry and Science	Innovation Month Launch Secretary's address 2015
	Secretary, Department of Health	Innovation within the Department of Health
	Director, Digital Transformation Office	The Computer Says Yes
2016	Deputy Secretary, Department of Industry, Innovation and Science	Innovation Month 2016 Launch

Available video presentations from the Department of Industry, Innovation and Science YouTube channel have been viewed and reviewed to create the transcripts. After that, these transcripts were read without analysis or coding to gain a feel for the content (Bryman and Bell, 2015). NVivo was utilised to search, sort and organise the transcripts. Coding was then performed to extract important concepts. The dominant themes that emerged were coded in nodes with annotations assigned to signify the importance of a given attribute. Coding was conducted to analyse the content from every manuscript, particularly those with similar values, intentions and meanings. A screenshot of a coding activity is shown in Figure 1.

Figure 1: Screenshot of Coding in NVivo



4. FINDINGS

4.1 Drivers of Innovation

Koch and Hauknes (2005) suggest that the public sector is regarded as risk-averse. Compared to the private sector, incentives for public servants are in general more likely to be lower and there are less performance based material benefits, making it easier to avoid condemnation by not taking risks. The willingness to take risks is reduced because the ramifications that might occur include: political damage to the government, public criticism, possible legal consequences, diminished career prospects, and damage to personal reputation. The public sector's lack of competitive pressure does not lead to incentives to control costs or improve service quality and respond to the demands of clients. Moreover, the public sector has greater interests among stakeholders, and abstract social norms and objectives like safer roads, better public welfare and improved education. Thus, the public sector must cope with several stakeholders who may have contrary needs. Balancing the needs of several stakeholders will have ramifications for their actions, outcomes, and the degree of trust in the public sector (Pärna, 2014).

Nonetheless, innovation is no longer solely the realm of the private sector; it is also being progressively adopted in the public sector (Setnikar and Petkovšek, 2013). In the private sector, achievement is conclusively evaluated with a combination of increased revenue, profits, and shareholder value therefore innovation is essential (Bason, 2010). While the public sector is not subject to this competitive pressure to innovate and it is unnecessary to earn and maximise profit, innovation has still become an area of increased importance. Given the negative rewards for risk-taking, it is obvious that innovation is generated in the public sector in response to crises or some individual champions of a specific innovation (Eggers and Singh, 2009). For example, one presenter highlighted the importance of crises as a driver for innovation:

> *That crisis, you know I like to think, our crisis in Health, in the last little while has been the co-payment. Very publicly and politically difficult but we now have some very, very interesting ways forward around Medicare more broadly, and Primary Health Care. And we would not, probably, have got that opportunity without a crisis of a kind that allowed us to really push the boundaries on getting some real changed thinking around Medicare and Primary Health Care.* (Secretary, Department of Health)

Bloch (2010) also maintains the conception that unlike in the private sector, where innovation is basically driven by the purpose of profit maximisation, public sector innovation focuses on maximising social welfare created through public investments. Among the drivers of public sector innovation, the most important have been:

Improve efficiency and effectiveness: Innovation must be implemented to improve efficiency and effectiveness, in order to increase public value (Langergaard and Scheuer, 2012). For instance, the Director General of IP Australia described: "*Clearly, the application of new ideas and approaches, new technologies, and new systems of management that is innovation is essential to effectively making the challenges faced by the public sector and also to promoting Australia's general competitivenes and prosperity.*" In addition, the Secretary of the Department of Industry indicated that the focus on efficiency of resources is on the agenda in public sectors. As she commented: *"I think in terms of innovation is absolutely a driver for productivity. The evidence is very clear. I think in terms of efficiencies in the public service, I think in the past, we've looked at doing the same with less [resources] in terms of efficiency"*.

Reduce the cost of public services: Due to pressures on government revenues and rising expenses in areas of government service, substantial cost cutting must be accomplished to manage rising debt levels (Bason, 2010). The Director of Coordination and Gov 2.0 stated that: *"One of the main of pressures I've noticed on government of course is around resources. Everyone has less to do more."*

Increased complex challenges: The challenges are in contexts such as education, sustainability and climate change where the quality of problem solving and institutional innovation has a primary impact on social, economic, and environmental capabilities (Kao, 2007). As discussed by one of the participants: *"If government doesn't innovate, if we don't learn to be responsive and adaptive to what's happening in the world, then we make ourselves irrelevant. It's pretty simple, adapt or die. Without innovation without trying to do things better or in a completely different way, we are not going to move forward."* (Director, Digital Transformation Office).

Rising demands of citizens: When comparing between service quality in the private and public sectors, citizens demand not only high quality and more user-centric services, but also services designed and often delivered in collaboration with citizens and community sector partners (Bowden, 2005). As highlighted by the Director General of IP Australia: *"Citizen expectations of public service quality have risen while at the same time there is an increasing pressure on public budgets for greater efficiency, productivity, and cost reductions. There is also increasing contestability in the provision of public services and even policy advice."* Similarly, the Director of Coordination and Gov 2.0 argued that: *"A citizen today is able to engage and if you're not responsive to them, if government don't be agile and actually fill up a role then that void gets picked up by other people, so the internet society is a major pressure of the changing expectations of the public that we serve is a major pressure."*

4.2 Barriers to Innovation in the Public Sector

It is significant also to highlight the barriers to innovation in the public sector which have to be addressed in order to maintain successful and systemic innovation. Most barriers appear in the context of organisational, political, economical, and social aspects. Borins (2006) divides

the barriers in public sectors into three groups: first, political barriers, arising in the political environment; second, internal barriers, arising within the organization; and third, external barriers caused by the external environment. The internal barriers include; a lack of sufficient human or financial resources, little management support, few incentives for staff, staff resistance and a risk adverse culture. The external barriers include; regulatory obligations and an ambiguous acceptance by clients. Based on content analysis of the presentation transcripts, the following factors function as significant barriers to innovation in the public sector:

Risk-averse culture

The duty to maintain continuity and provide acceptable standardised services and accountability to citizens are subject to the possibility of political and media criticism when policies or programs seem unsuccessful (Mulgan and Albury, 2003). The negative ramifications of risk-taking in the public sector can be drastic and can include "political damage to the government, public criticism, possible legal consequences, diminished career prospects, and damage to personal reputation" (Management Advisory Committee [MAC], 2010, p. 30). Therefore, these reasons often lead to a culture of risk aversion which hampers innovation and again accentuates the need to deliberately manage innovation in the public sector. A number of presenters indicated that a culture of risk aversion is a major barrier for innovation:

> *I think risk is one of the first things that comes to mind for many. The public service is often described as risk averse, yet risk is intrinsic part of innovation.* (Secretary, Department of Industry)

> *Our stewardship of critical public sectors services and activities rightly attracts close scrutiny by parliament, the media, and the public. And we operate to serve ministers in a political environment. Tolerance for risk and failure is limited.* (Director General, IP Australia)

The following comments made by one presenter, reflecting on conversations she has had with other civil servants, illustrate risk-aversion:

> *The amount of people that have said to me, just quietly, small feedback up, Hey, we'd love to do that but we don't want to get any criticism.* (Director of Coordination and Gov 2.0)

Limited resources

Financial resources are essential for innovative project development, testing and implementation. Strict funding in public management is a vital issue caused by the alignment of centralisation and decentralisation doctrines and the aspects of power in regard to government level (Page, 2005). The public sector also has a duty to utilise resources effectively. Innovation is normally funded using budgetary slack or cost savings brought about by enhanced efficiency. However, the obstacle with these budgets is they are unpredictable (Borins, 2006). Thus, public servants hesitate to integrate innovation initiatives into resource planning due to concerns that such cost will be considered too risky and funds should be allotted to other items. The following quote is evidence of this view:

> *It is our responsibility as public servants to be as efficient as we possibly can and cutting cost is a very real reason why we should be and needing to be innovative but innovation in that process that by definition is inefficient, any new idea or experiment may not work.* (Secretary, Department of Industry)

However, one presenter put forward the view that limited resources were both positive and negative for innovation:

> *Resources themselves can also have a positive or negative effect. Resource cuts can in fact stimulate innovation by requiring us to rethink how we can achieve the outcome with fewer*

> *inputs. Conversely in some cases innovation will require an investment of resources and it can be strangled if there are none available.* (Director General, IP Australia)

Failure of leadership

Organisational leadership plays an important role in facilitating innovation by creating a climate in which subordinates interact and operate. Top management commitment to the culture and attitudes toward innovation can be demonstrated by willingness to accept risk and advocating and rewarding innovative behaviour. Leaders must find mechanisms to encourage the generation, adoption, and implementation of innovations. For example, as noted in the following comment, the failure of leadership has been a vital barrier of innovation:

> *The third pressure is upper management. They don't always get what we're trying to do. Let's be honest, right?* (Director of Coordination and Gov 2.0)

Nevertheless, frequent changes in organisational leaders occurring from the exchange of political forces or the end of terms of office are major barriers of innovation processes in the public sector. This phenomenon is called the 'too many hats' syndrome (Raipa and Giedraityte, 2014). Frequent leadership changes make it difficult to start innovative projects and drive change and innovation in the public sector (Hamson, 2004).

Regulatory requirements

Public sectors generally have bureaucratic structure. Bureaucracy relates to the precise separation of integrated activities regarded as responsibilities inherent in the department and hierarchical management based on supervisory relationships (Raipa and Giedraityte, 2014). Approval processes in the public sector can be embedded and burdensome which restrains innovation in organisations. Activities in such organisations are also administrated by common, abstract, and clearly defined regulations and policies which exclude requirements for an issuance of specific mandates for each unique case (Merton, 1940). In order to be successful, innovation processes require 'breaking the rules' (Mulgan and Albury, 2003). In addition, many public sectors are confronted with legal requirements and inessential bureaucratic practices. More regulations do not automatically assure better discipline. Therefore, the red tape of the past should have no place in the innovative organisation. Instead, organisations need to ensure standards are up to date and provide appropriate regulations to enable ideas to be taken to citizens. The following quotes illustrate this:

> *Inherit conservatism, rigid and opaque processes and structures that breed the culture of conformity and punish non-conformity. A closed internal focus which assumes all the answers must come from within. This is recognisably a description of the traditional bureaucracy. Our roles require a high degree of public accountability and thus working within a sometimes restrictive rules based framework is inevitable.* (Director General, IP Australia)

Few rewards or incentives

The public sector has generally had higher punishments for failed innovation than awards for successful ones. While public servants may attempt to be creative and innovative, there is scarce feedback on ideas, innovative projects are rarely encouraged and there is a lack of recognition of innovators. In some agencies, processes or attitudes have a tendency to punish innovators by transferring the risk of failure onto them. Also departments seeking to generate innovation may have to fund the project internally. Thus, if the innovation fails or does not prove to be efficient, the innovators are responsible for all the costs. Such experiences lead public servants to the perspective that any innovative initiatives are confronted with the risk of penalties (MAC, 2010). Another presenter expressed concern about there being few rewards in public sectors, leading to a belief that innovation is not valued in their organisations:

> *Undertaking innovation in the APS has been described as long on risk and short on reward. There are those that say that the APS risk-reward trade off is currently low on risk and short on reward. To promote innovation, the staff need to understand that it is valued within the organisation.* (Director General, IP Australia)

Hierarchy

Highly hierarchical organisations thwart innovation in the public sector and senior officers may hold the opinion that innovation can result in threats to existing hierarchies. There is a perception amongst many public servants that seniority or position generally rules whose opinions are accepted or respected. A host of internal hierarchy horizontal constraints have a tendency to inhibit the interaction necessary to generate novel ideas and vertical barriers can hamper novel ideas from bubbling up to determination (Eggers and Singh, 2009). In hierarchical structures, novel ideas have to pass through many steps of approval processes (MAC, 2010). In order to stimulate an innovative idea, flatter structures and more open, interactive processes should be established in the public sector. As one presenter from a high ranking position commented:

> *One of the biggest barriers to innovation was hierarchy, and I think the Secretaries' Group want to see new ideas not being put through big bureaucratic processes, but absolutely streamlined across the [Australian] Public Service, and that does, absolutely, require leadership, not just through Secretaries and SES [Senior Executive Service], but all of us, to help loosen, I guess, the bureaucracy and the shackles that seem to maintain a business as usual approach, and, if we don't keep up, then we become less relevant, too, as Agencies and the Public Sector.* (Secretary, Department of Industry and Science)

However, not every presenter viewed hierarchy negatively, with one presenter who took a more longitudinal and broader perspective, commenting as follows:

> *Now, I know that people sometimes don't associate hierarchy with innovation, but I'm a great believer in hierarchy. I spent 22 years in the army with an appreciation that sometimes you have to do what you're told. The advantage of hierarchy is that often it comes with relatively large spans of command, spans of control. Lots of people, people with lots of direct reports. Typically, the research shows you that between five and seven is the right number of direct reports that you can get. Now, what's the advantage of having seven direct reports as opposed to one or two direct reports? Bloody hard to micromanage seven people, and if you avoid micromanagement, you avoid the innovation-crushing way of telling people how to do things.* (Chief Technology Officer, Department of Finance)

Silo effect

The public sector has a tendency to operate like a silo where each department has different duties and the authority to operate the duty. Initially, these are generated as a procedure to manage human resources and structural processes. However, the issue with silos is they cause public servants to only concentrate on the definite mission involved with their agency. Generally, there is an implicit race between departments, especially where their duties overlap (MAC, 2010). These silos can be a significant barrier in terms of collaboration between each agency. The major obstacles to innovation result not from deficiencies of individual talent but from deficiencies of collaboration. As highlighted by one of the presenters:

> *This massive barrier to doing the work of the public service better is systemic silos. This is how government sees government, a whole map of fiefdoms, of castles to defend, of armies that are beating at your door, people trying to take your food and this is just one department. We don't have this concept of that flag has these skills that we could use. These people are doing this project; here's this fantastic thing happening over there that we could chat to. We're not doing that enough across departments, across jurisdictions. So what's the solution? The solution is we need to share.* (Director of Coordination and Gov 2.0)

The public sector must disintegrate the silos that obstruct the flow of information that becomes knowledge, informed decisions and leads to results (Egger and Singh, 2009). As explained by another presenter who believed that his agency had overcome the silo problem by idea sharing:

> *We've committed to idea sharing by supporting a trial of a cross-agency platform. Increasingly, we are experiencing convergence of issues and the citizen's view and experience of government is not siloed, and nor will the solutions to their needs be. Silos are becoming less important, while integration and collaboration are becoming more so.* (Secretary, Department of Industry and Science)

4.3 Innovation Characteristics

Innovation in the public sector is considered a legitimate means to improve efficiency and effectiveness in government and respond to citizens' increasing demand for better services. Public agencies are becoming key players in the adoption, invention and implementation of innovations (Borins, 2006). Value creation in the public sector is thus much broader in scope than for private businesses (Kelly, Mulgan and Muers, 2002). This means that innovation now plays a pivotal role in improving service quality (i.e. developing ways to address better social problems to meet the demands of citizens) and raising the productivity of the public sector (i.e. increasing the efficiency and effectiveness with which budgets are spent) (Pärna, 2014). The following quote illustrate this:

> *Innovation is not something you can set and forget. It's something that we need to absolutely embed in the way we work. It shouldn't be just seen as an add on to our normal processes and thinking, not just in the policy area but also in the service delivery, program management and regulatory area and you'd see in terms of, the deregulation agenda, I think the government in particular is looking at us to look at more innovative ways to solving problems rather than just coming up with regulatory responses.* (Secretary, Department of Industry)

Moore and Hartley (2008) contend that there are five interdependent attributes differentiating the characteristics of public sector innovations from the private sector. Innovations in the public sector go beyond organisational frontiers to generate network-based and financial decision-making and production systems; tap new pools of resources; exploit the government's capacity to shape private rights and responsibilities; redistribute the right to define and judge value. These aspects should be evaluated in terms of the degree to which they promote justice and the development of a society as well as their efficiency and effectiveness in achieving collectively established goals.

In addition, four types of values for the public sector are proposed by Bason (2010): productivity, service experience, results and democracy. The obstacle for the public sector is that value in all four categories has to be established simultaneously, without impairing the value of another. Thus, the special role and function of the public sector is subject to a democratic, political rule, in which democracy is the governing principle.

The relation between innovation and performance is much less clear in the public sector. First, bureaucracies often restrain innovation because of their inherent proclivity toward regulation and certainty (Golembiewski and Vigoda, 2000). Even though innovative projects are progressively stimulated in public sectors, they seem to be separated from routine works. Thus, an ad-hoc basis seems to be a characteristic of innovation in public sectors. One presenter indicated that an ad-hoc innovation was on the agenda at her agency. As she commented:

> *Innovation in the APS is often patchy and undertaken on a somewhat ad-hoc basis. And we didn't actually take them to sit down and have a look at what we were doing in total to convince us that we were doing quite a lot of innovative things.* (Director General, IP Australia)

However, another presenter was more positive about this issue, offering the following solution:

> *We've very much taken an approach which says innovations in our department should not be about extracurricular activity. It's not about sort of small projects off to one side, it's about our core work.* (Deputy Secretary, Department of Industry, Innovation and Science)

Second, politics and the political process massively impact innovation in the public sector. The capability of the department to organise budgets to achieve innovative goals directly relies upon how the department obtains political support from parliamentary processes for scrutiny (Golembiewski and Vigoda, 2000). The political shrewdness of civil servants can encourage innovation in their agency. These viewpoints are noted in the following:

> *Now if you go to your boss and say, "I want to do this great, cool thing and it's going to be great and I'm going to go and work with all these other people. I'm going to spend lots of your money." Yeah, they're going to probably get a little nervous. If you say to him here's why this is going to be good for you, I want to make you look good, I want to achieve something great that's going to help our work, it's going to help our area, it's going to help our department, it's going to help our Minister. It aligns with all of these things; you're going to have a better chance of getting it through.* (Director of Coordination and Gov 2.0)

Top-down approaches emphasise the leading role of top management who champion new ideas and support innovation. In addition, politicians also propose innovative ideas to spark media attention to their campaigns and to elicit the support of their constituents (Altshuler and Behn, 1997). The following two quotes illustrate the application of this top-down approach:

> *Each Department will clearly identify and support SES level champions, and my own Department's champion is at the deputy level. I'll be meeting with all the champions, straight after Innovation Month, to discuss how we can learn from each other, in helping to embed innovation, not just within our organisations, but across the APS.* (Secretary, Department of Industry and Science)

> *One of my roles is to chair the APS Innovation Champions, which is a group of SES, get together once a month, to share what's going on in our respective agencies, to try and build some peer support around Innovation across the APS. And we also try to push along a few key projects.* (Deputy Secretary, Department of Industry, Innovation and Science)

However, research on innovation in the public sector has shown that while elected officials and senior managers conceive and initiate many innovations (Kellough and Nigro, 2002), frontline employees are also a source of many innovative proposals because they ingest ideas from outside the organisation or generate novel ideas developed through experimentation, accidental occurrences, and other forms of experience (Borins, 2006). Altshuler and Behn (1997) asserted that most public sector innovations were based upon discovery rather than invention. These innovations are typically novel ideas learnt or borrowed from other organisations which are adopted as a solution to some long-lasting problems within the organisation. Moreover, public servants who initiate innovations were more likely to be middle or lower-level bureaucrats in direct contact with clients rather than senior managers. Similarly, Borins (2006) has also found that frequent innovators in public sectors are career civil servants at the middle manager and frontline levels. For example, the following three quotes signal the importance of bottom-up innovation:

> *We know, I guess as leaders in the public service that the ideas aren't going to come from old us, old, crusty folk, they're going to come from younger people and the next wave of reform is going to come from those that are down the hierarchy* (Secretary, Department of Industry)

> *You really need to tackle innovation from the top down and then the bottom up. Innovation is not a seperate activity, it's actually the way you go about your day-to-day job.* (Director of Coordination and Gov 2.0)

> *We're also mindful that of course you've got to have bottom-up approach too and many of the good ideas that you'll have about changing the way we deliver services or new policies or new ways of doing things will come from our staff. So we're developing what we're calling an ideas pathway for our staff. And of course we'll have an ideas management platform.* (Deputy Secretary, Department of Industry, Innovation and Science)

4.4 Typology of Innovation

To illustrate innovation in the public sector in Australia, a taxonomy of innovation types in public services has been examined (Arundel and Huber, 2013; Windrum, 2008):

Services innovation: The introduction of new services offered by public sectors to meet external users or market needs; an example is the new National Broadband Network, providing high-speed internet access to most of the country, and therefore enabling public sectors to improve the quality of an existing service product. The following quote illustrates:

> *This move is aimed at lowering the barriers to entry for RSPs [Retail Service Providers] and we expect it to promote retail competition and service innovation, leading to flow-on benefits for consumers. The rebate will give [retail] service providers a lower-cost opportunity to enter a geographic area, and build their customer base in the early days.* (NBN Co, 2011, p. 1)

Service delivery innovation: A new or different way of providing a service, or collaborating with a client, for the goal of delivering specific public services. For example, the Australian Government Business.gov.au website provides a single database for companies with access to online registration for services, smart forms and various information, transactions and services; thus companies can curtail transaction and compliance costs. As noted by one presenter:

> *This whole of government service makes it easier for business to interact with government online and reduces government turnaround time and cost to process forms. I should give a plug to the team at business.gov.au who have developed a suite of free business-planning apps for iPad and Android to help Australian businesses, business owners develop business plans, marketing and emergency management plans.* (Secretary, Department of Industry)

Organisational innovation: Special approaches for changes to organisational structures and processes by which services are provided by front office staff, and front office services are supported by back office staff. For instance, IP Australia provides a new organisational approach to do their work by teleworking, rather than working full time in the office. This is explained by the following quote:

> *IP Australia has been a public sector leader in introducing teleworking. Originally we do this in response to our inability to attract and retain patent examiners in key professionals. We established a work force of so-called out posted workers who live in locations all over Australia and undertake patent examination roles remotely.* (Director General, IP Australia)

Conceptual innovation: The development of new ways of looking at challenging problems and assumptions that underpin existing services. For example, the National Respite for Carers Program provides support for carers further to that provided directly to those who require care. For instance, O'connell, Haskins, Ostaszkiewicz and Milllar (2012, p. 118) explained:

> *Respite care is available Australia-wide and is primarily funded through the National Respite for Carers Program. There is a need to extend respite services and consider more innovative, accessible and flexible models of respite care, for example, by developing holistic respite care centres that not only look after care-recipients, but also offer services such as GP clinics.*

Policy innovation: A change to thinking or behavioural intentions related to a policy belief system. Shaping policy direction is the role of the public sector. Diffusion of policy innovations is encouraged by learning, public pressure or commands from executives (Berry and Berry, 2007). For instance, the Higher Education Contribution Scheme promotes entry to tertiary institutions for all students (including the disadvantaged), and also manages the revenue base for tertiary institutions. Marks (2009, p. 1) illustrated that:

> *Australia's Higher Education Contribution Scheme (HECS) is an income contingent loan scheme, in which university students pay back part of the costs of their tuition after their post-university income reaches a certain threshold, is an important policy innovation for the financing of higher education.*

Systemic innovation: New or improved ways for parts of the public sector to operate and interact with stakeholders and knowledge bases, for example the establishment of Centrelink, which changed the means by which many government services were delivered to the public. As this presenter explained:

> *We merged Centrelink, Medicare and Child Support, CRS Australia, Australian Hearing in one capability. Increasingly, my day job is all about change and integration and bringing the whole package together. We run a bunch of service centres across the country increasingly developing them as one-stop shops.* (Deputy Secretary, Department of Human Services)

These typologies of public sector innovation are wide and include dramatic service improvements to fully new methods to approach the way public services are delivered. Walker (2008) comments that in public sectors, the obligation to achieve multiple targets means that it is essential to be innovative across a variety of innovation types; it is implausible that aiming for just one type of innovation could result in accomplishing a number of, what are sometimes, conflicting goals. Damanpour and Schneider (2009) also support that innovation types tend to complement each other which improves organisational performances. Different types of innovations should have different effects in the public sector, for example, a service delivery innovation could raise client satisfaction or decrease the time required to deliver a service, whereas an organisational innovation could improve efficiency.

5. CONCLUSIONS

Having conducted a comprehensive content analysis, this study has identified how senior managers view innovation in the APS from different standpoints. The main context of this study is taking research on innovation into an applied public sector setting. There is a stereotypical view of the APS as being large bureaucracies which stifle innovation. Despite this perception, innovation in the APS does occur both in terms of a top-down approach and also a bottom-up approach. Content analysis reveals that the key attributes typically associated with innovation in the APS consist of drivers of innovation; barriers of innovation; innovation characteristics; and typology of innovation. These aspects have been defined, and descriptors assigned.

Innovation in the APS has rapidly enhanced due to a number of drivers: improve efficiency and effectiveness; reduce the cost of public services; increased complex challenges; and rising demands of citizens. The main barriers highlighted by presenters were a risk-averse culture, limited resources, failure of leadership, regulatory requirements, and few rewards or incentives. Additional key concerns expressed by senior managers included hierarchy and the silo effect. A consensus on the definition of innovation offers a way forward for the identification of innovation within the public sector context. For example, there is the opportunity to characterise innovation on the basis of whether civil servants bring forward

something new ideas, or improve an existing aspect of the APS. The typology of innovation, implicit in this analysis, also offers a means of classifying innovations.

According to the implications of this study, one should be very careful in applying decades-long knowledge and theories of innovation developed from private sector studies, directly to the public sector. This also justifies the need for comprehensive studies to examine innovation in the public sector. The limitation of this study is that the evidence is based on perceptions of presenters and may not reflect actual practices nor the perceptions of others.

REFERENCES

Altshuler, A. A. and R. D. Behn (1997) *Innovation in American Government: Challenges, Opportunities, and Dilemmas*. Washington: Brookings Institution Press.

Arundel, A. and D. Huber (2013) From too little to too much innovation? Issues in measuring innovation in the public sector. *Structural Change and Economic Dynamics*, 27, pp. 146-159.

Australian Bureau of Statistics (2009) *Australian System of National Accounts*. Cat. no. 5204.0. Canberra: Australian Bureau of Statistics.

Bason, C. (2010) *Leading Public Sector Innovation*. Bristol: Policy Press.

Bekkers, V., J. Edelenbos and B. Steijn (2011) *Innovation in the Public Sector*. New York: Palgrave Macmillan.

Berry, F. S. and W. D. Berry (2007) Innovation and diffusion models in policy research. Chapter 9 in P. A. Sabatier (Ed) *Theories of Policy Process* (2nd Edition). Colorado: Westview.

Bloch, C. (2010) Towards a conceptual framework for measuring public sector innovation. Nordic project 'Measuring innovation in the public sector in the Nordic countries: Toward a common statistical approach' ("Copenhagen Manual").

Borins, S. (2006) *The Challenge of Innovation in Government: Endowment for the Business of Government*. Arlington: PricewaterhouseCoopers.

Bowden, A. (2005) Knowledge for free? Distributed innovation as a source of learning. *Public Policy and Administration*, 20(3), pp. 56-68.

Currie, G., M. Humphreys, D. Ucbasaran and S. McManus (2008) Entrepreneurial leadership in the English public sector: Paradox or possibility? *Public Administration*, 86(4), pp. 987-1008.

Damanpour, F. and W. M. Evan (1992) The adoption of innovations over time: Structural determinants and consequences in library organizations. *Library and Information Science Research*, 14(4), pp. 465-482.

Damanpour, F. and M. Schneider (2009) Characteristics of innovation and innovation adoption in public organizations: Assessing the role of managers. *Journal of Public Administration Research and Theory: J-PART*, 19(3), pp. 495-522.

Eggers, W. D. and S. K. Singh (2009) *The Public Innovator's Playbook: Nurturing Bold Ideas in Government*. New York: Ash Institute, Harvard Kennedy School.

Fagerberg, J. (2004) *Innovation: A Guide to the Literature The Oxford Handbook of Innovation*. Oxford: Oxford University Press.

Franza, R. M. and K. P. Grant (2006) Improving federal to private sector technology transfer. *Research Technology Management*, 49(3), pp. 36-40.

Glor, E. D. (1998) What do we know about enhancing creativity and innovation? A review of literature. *The Innovation Journal*, 3(1), Article 3.

Golembiewski, R. T. and E. Vigoda (2000) Organizational innovation and the science/craft of management. *Current topics in management*, 5, pp. 263-280.

Hamson, N. (2004) Why innovation doesn't work: and what to do about it. *The Innovation Journal*, 9(1), pp. 1-7.

Hawksworth, J. and N. Jones (2010) *Sectoral and Regional Impact of the Fiscal Squeeze*. London: PriceWaterhouseCoopers.

Kao, J. (2007) *Innovation Nation: How America is Losing its Innovation Edge, Why It Matters, and What We Can Do to Get It Back*. New York: Free Press.

Kellough, J. E. and L. G. Nigro (2002) Pay for performance in Georgia State Government: Employee perspectives on Georgia gain after 5 years. *Review of Public Personnel Administration*, 22(2), pp. 146-166.

Kelly, G., G. Mulgan and S. Muers (2002) *Creating Public Value: An Analytical Framework for Public Service Reform*. London: Strategy Unit, Cabinet Office.

Koch, P. and J. Hauknes (2005) *On Innovation in the Public Sector: Academic Summary Report of Publin*. Oslo: NIFU STEP, Publin Report No. D20.

Landau, R. and N. Rosenberg (1986) *The Positive Sum Strategy: Harnessing Technology for Economic Growth*. Washington, DC: National Academies Press.

Langergaard, L. L. and D. J. Scheuer (2012) Towards a deeper understanding of public sector innovation. In A. L. Macaulay, I. Miles, J. Wilby, L. Y. Tan, L. Zhao and B. Theodoulidis (Eds) *Case Studies in Service Innovation*. New York: Springer, pp. 167-193.

Management Advisory Committee [MAC] (2010) *Empowering Change: Fostering Innovation in the Australian Public Service*. Canberra: Australian Public Service Commission.

Marks, G. N. (2009) The social effects of the Australian higher education contribution scheme (HECS). *Higher Education*, 57(1), pp. 71-84.

Merton, R. K. (1940) Bureaucratic structure and personality. *Social Forces*, 18(4), pp. 560-568.

Miller, R. (1999) The Internet in twenty years: Cyberspace, the next frontier? *Foresight*, 1(5), pp. 467-472.

Moore, M. and J. Hartley (2008) Innovations in governance. *Public Management Review*, 10(1), pp. 3-20.

Mulgan, G. and D. Albury (2003) *Innovation in the Public Sector*. London: Cabinet office.

NBN Co. (2011) "NBN Co makes it cheaper for service providers to start up on the NBN [Press release]." Retrieved from http://www.nbnco.com.au/content/dam/nbnco/media-releases/2011/cvc-transition-9-aug-11.pdf.

Neuman, W. L. (2005) *Social Research Methods, Quantitative and Qualitative Approaches* (6th Edition). Boston: Pearson.

O'Connell, B., M. Hawkins, J. Ostaszkiewicz and L. Millar (2012) Carers' perspectives of respite care in Australia: An evaluative study. *Contemporary Nurse*, 41(1), pp. 111-119.

Organisation for Economic Cooperation and Development [OECD] (2012) "Public Sector." Website accessed at http://stats.oecd.org/glossary/detail.asp?ID=2199.

Page, S. (2005) What's new about the new public management? Administrative change in the human services. *Public Administration Review*, 65(6), pp. 713-727.

Pärna, O. (2014) *Managerial and Contextual Factors Influencing Innovation in Information Technology-based Public Sector Services: An Exploratory Cross-national Study*. Doctoral Dissertation, University of Tartu.

Raipa, A. and V. Giedraityte (2014) Innovation process barriers in public sector: A comparative analysis in Lithuania and the European Union. *International Journal of Business and Management*, 9(10), pp. 10-26.

Rogers Everett, M. (1983) *Diffusion of Innovations*. New York: Free Press.

Rogers, M. (1998) *The Definition and Measurement of Innovation*. Melbourne: Melbourne Institute of Applied Economic and Social Research.

Saunders, M., P. Lewis and A. Thornhill (2003) *Research Methods for Business Students*. Harlow, England: Prentice Hall.

Schumpeter, J. (1926) Entrepreneur advances in Austrian economics. *Austrian Economics and Entrepreneurial Studies*, 6, pp. 235-265.

Schumpeter, J. A. (1934) *The Theory of Economic Development: An Inquiry into Profits, Capital, Credit, Interest, and the Business Cycle*. Harvard Economic Studies 46, translated by Redvers Opie. Cambridge, Mass: Harvard University Press.

Setnikar C., S. and V. Petkovšek (2013) Private and public sector innovation and the importance of cross-sector collaboration. *Journal of Applied Business Research*, 29(6), pp. 1597-1606.

Thompson, V. A. (1965) Bureaucracy and innovation. *Administrative Science Quarterly*, 10(1), pp. 1-20.

Van de Ven, A. H. (1986) Central problems in the management of innovation. *Management Science*, 32(5), pp. 590-607.

Varney, D. S. (2006) *Service Transformation: A Better Service for Citizens and Businesses, A Better deal for the Taxpayer*. London: Her Majesty's Stationery Office.

Walker, R. M. (2008) An empirical evaluation of innovation types and organizational and environmental characteristics. *Journal of Public Administration Research and Theory*, 18(4), pp. 591-615.

Windrum, P. (2008) Innovation and entrepreneurship in public services. In P. Windrum and P. Koch (Eds) *Innovation in Public Sector Services: Entrepreneurship, Creativity and Management*. Cheltenham: Edward Elgar, pp. 3-22.