

The Myth of One Size Fits All in Understanding Public Sector Innovation

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Abstract

The importance of innovation as an instrument in service delivery and building greater trust towards public service and the government, is undeniable. Prior studies in the literature on the public sector domain revealed that innovation in the public sector may result in a positive impact on the government, the public, organizations as well as the nation as a whole. Although there is point of similarity and convergence between public and private sector innovation, it is arguable that complexity in the public sector suggests that the general assumption that practices from the private sector are the best references for improving public sector innovation. A review of the body of literature on various concepts of innovation from both public and private sector perspectives has found significant demarcation between innovations in both sectors in terms of objectives, governance model for innovation, dimensions and diffusion of innovation. The findings suggest a need for a dedicated concept in understanding public sector innovation, rather than implementing a 'one-size-fits-all' approach of innovation by adopting from the private sector. The correct conceptualization of public sector innovation will lead to the formulation of the right policy to support innovation, appropriate business models, implementation of crucial initiatives, innovation process improvements, and measurements to gauge the performance of public sector innovation.

Keywords: Public sector; public sector innovation;

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■ 1.0 INTRODUCTION

Innovation is a generic terminology that is capable of influencing current and future environments in the world. This concept was initiated with the introduction of the term "new combination" by Joseph Alois Schumpeter's "The Theory of Economic Development", which was published in 1912 (Śledzik, 1942). The general terminology of innovation refers to the creation or adoption of new ideas (Van de Ven, 1986), and was originally derived from the Latin word "innovare", which means "to introduce something new to the existing realm and order of things or change the yield of resources" (Chaplam, 2003). Since this initial definition, scholars have actively refined the terminology of innovation to establish a better understanding about its underlying concept. Consequently, various concepts of innovation can be found in the related body of literature. For example, Roger and Shoemaker (1971), Kimberly (1981), Nelson and Winter (1982), Freeman (1982), Drucker (1985), Van de Ven (1986), Porter (1990), Tang (1998) Wilhelm (2003) and OECD (2005) all investigate different concepts associated with innovation. Examination of the definition finds communalities in terms of the usage of word such as 'new', 'introduction', 'market', 'processes', 'technology', and 'product'. The usage of these suggests that innovation is dynamic, and thus occurs in multiple sectors.

Therefore, Baregheh, Rowley, and Sambrook (2009) propose a generic definition of innovation which refers to the multi-stage process, whereby organisations transform ideas into new/improved products, services or processes, in order to advance, compete and differentiate themselves successfully in their marketplace (Baregheh et al., 2009). Thus, by reviewing the existing literature on the various concepts of innovation from the public and private sectors, this article aims to determine whether there are differences, similarities or convergences between public and private sector innovation in term of objectives, governance model for innovation, dimensions and diffusion of innovation. The findings contribute towards the development of a dedicated concept for understanding public sector innovation, as opposed to an implementation of the one-size-fits-all approach to innovation by adopting from the private sector. The correct conceptualisation of public sector innovation leads to the formulation of the most suitable policy, the appropriate innovation processes for innovation and an accurate measurement model to gauge the performance of public sector innovation.

■ 2.0 RATIONALIZATION FOR PUBLIC SECTOR INNOVATION

The public sector is a diverse sector that includes various sub-sectors such as public administration, police, education, health, research, quasi-autonomous (or semi-public) non-governmental organisations (the so-called "quangos"), and publicly-owned commercial organisations (Gallouj & Zanfei, 2013) which operate at the national, regional and local levels (Arundel & Huber, 2013). The sector

accounts for between 20% and 30% of the GDP in developed countries (Arundel & Huber, 2013). This is a substantial share of economic output, indicating the importance of public sector contribution in most countries, and in turn reflecting the prospect of innovation (Arundel & Huber, 2013). Successful innovation is key for effective government and public sectors (Albury, 2005; Darrell M. West, 2010; Mustafid & Anggadwita, 2013). In fact, the growth of awareness towards innovation in the public sector was inspired by the acknowledgement of the fact that innovation activities can advocate the performance of the public sector, as well as enhance public values (Djellal, Gallouj, & Miles, 2013). Kelly et al. (2003) classified the benefits of an innovative public sector in three domains, namely, social outcomes, value in services and trust.

The economic rationale may be one of the reasons for the public sector to innovate, especially in order to achieve sustainable financial practice, stimulate cost-effective management, increase productivity of civil services, and increase sources of income such as collection of taxes and service loans (Bugge, Markus M. Mortenson, 2011). This rationale was rooted by the growing interest of the public on public sector accountability, transparency, efficiency and performance. Consequently, innovative approaches for managing resources may be introduced to overcome the cost constraints such as value management, output-based budgeting, public-private partnership and widespread implementation of information and communication technology. The innovation efforts in this context may also strengthen the trust of the public towards resource management in the public sector, and reflect a greater accountability in the use of taxpayers' funding.

From a political perspective, innovation in the public sector may be motivated by political reasons. In order to gain votes and sustainable political support, it is essential for a government to be seen as capable of managing the country, compared to the opposition party. Therefore, public sector machinery, for example, may be capitalised to deliver better services as evidence of competency and performance of the current government in ruling the country (Arundel & Hollanders, 2011; Pärna & von Tunzelmann, 2007).

The dynamic nature of innovation in the public sector transforms the tradition of innovation in this sector from a passive adopter of innovation, to a proactive source of new ideas and inventions (Arduini et al. 2013; Bloch & Bugge, 2013; Djellal et al., 2013; Nursani, 2004). Moore et al. (1997) identify the public sector innovation as *“new to the organisation, be large enough and durable enough to appreciably affect the operations or character of the organisation”*. The element of novelty and degree of change form the central ideas of this definition. However, this is not in terms of novelty compared to other organisations, as changes need to be noteworthy to the organisation's operations overall. The definition of public sector innovation is *“the creation and implementation of new processes, products, services and methods of delivery which result in significant improvements in the outcome efficiency, effectiveness or quality”* (Mulgan & Albury, 2003). Other definition perspectives of public sector innovation were proposed by focusing on the improvement, which may be in the form of enhanced quality, efficiency and effectiveness (Ettlie & Rosenthal, 2011). Moreover, to be innovative, the public sector may also adopt, adapt and implement existing innovation by another public organisation, private entity or non-government organisation (Mulgan & Albury, 2003).

Related to this context, public organizations may adopt innovations that have been implemented by other organisations. To further simplify the existing definition, Mulgan (2007) proposed that *“public sector innovation is about new ideas that work at creating public value”*. The ideas have to be at least in *“part new (rather than improvements); taken up (rather than just being good ideas); and useful.”* The definition of the existing scope of the contribution of public sector innovation only focuses on improving effectiveness and efficiency to also include enhancing public values (Djellal et al., 2013). The main elements of the definition are that an innovation should be new, or significantly improved and implemented. The term *“useful”* in this definition requires that enough time has elapsed for assessment to be undertaken, and this could pose a problem for measuring an organisation's recent innovations (Bloch & Bugge, 2013). Thus, for measurement purposes, Gault (2013) suggested defining innovation as the implementation of new or significantly improved products or services by checking whether they are *“made available to potential users”*, which could also permit the Oslo Manual to be applicable to public sector organisations.

■ 3.0 SIMILARITIES, INTERACTION AND DEMARCATION BETWEEN PUBLIC AND PRIVATE SECTOR INNOVATION

From a conceptual point of view, innovation in both private and public sectors might not seem to be very different, since most of the comparison elements exist in these sectors. However, drilling down further to the implementation and operation levels, it is crucial to realise that the objectives and mechanisms involved are complex in nature. The public sector has always been unfairly treated by comparison with the private sector in performance; and pressured to adopt practices, especially when it comes to speed in service delivery. Moreover, there is always an urge to follow trends in the private sector, regardless of its unique characteristics. This does not only come from citizens and private firms, but also from public sector managers. In understanding this phenomenon, multiple dimensions need to be examined and discussed to better appreciate the situation.

The complexity that the public sector deals with was stressed by Hartley (2005), where it exists within a more complex social system, and with goals and values that are more ambiguous and difficult to quantify. There are variances, commonalities, and interactions between the private and public sectors in the practice of innovation (Australian Government, 2009). The similarities exist on the basis that the majority of innovation in public sector services is associated with services that are also among the focus of the private sector. Thus, the innovation for improvement of generic services occurs in both the private and public sectors, especially in improving the quality of services such as responsiveness, speed of delivery, assurance, tangibility, empathy, responsibility, and service recovery.

This interaction may exist in relation to the policy or regulation enforcement, where innovation in the public sector can act as a stimulus to business innovation through public procurement, provision of technological infrastructure and regulations. As a user of

technology, the public sector may drive innovation by public procurement activities and act as the key partner in user-producer development (Paul Windrum & Per Koch, 2008). The procurement of innovative products and services by the government will stimulate innovation activities in the private sector. Public sector innovation is also essential in ensuring the successful implementation or adoption of new technologies introduced by the private sector. For example, the successful sales of the electric car will depend on policy innovation in green and energy policies, transportation policies, availability of car charging facilities in public areas, and incentives structure for consumers of the electric car.

In a reverse relationship, any government announcement on the new 'green', renewable energy policies may also stimulate research, as well as the production of innovative green products in the market. On the other hand, innovation in the private sector may be directly affected by the enforcement of certain policies and regulations. Strict policies will hinder the flexibility of the private sector to innovate. At the same time, the public sector's bureaucratic system and administrative rules will also prohibit innovative activities in the private sector. With regards to procurement, the trend of public sector procurement stimulates innovation in the public sector. This may be in terms of the development of new products, software, and hardware aimed to fulfil the needs of the public sector (Paul Windrum & Per Koch, 2008). The contribution from public sector innovation is also important to the private sector due to the role of the public sector as a facilitator to the business communities, especially in entrepreneurial facilitation, ICT facility policy framework and instruments. Additionally, the public procurement strategy, which is innovative in nature, may have a major impact on innovation in the private sector (Bloch, 2013; Clatworthy, 2011; Curry, 1999).

Besides the similarities and interaction, there is a clear demarcation between public and private sector innovation. This difference has caused the dismissal of the idea of direct adoption of innovation in the private sector for improving public sector innovation. A review of the body of literature on the various concepts of innovation from the public and private sector perspectives has reported significant demarcation between the innovation of both sectors in terms of objectives, a governance model for innovation, dimensions, and diffusion of innovation.

3.1 Objectives of Innovation

Public value remains a decisive factor of whether or not an innovation is successful for the public sector; this distinguishes it from private sector innovation (Hartley, 2013). Mulgan & Albury (2003) centered the definition of the term innovation as public sector innovation about new ideas that work at creating public value. Bloch & Bugge (2013) discuss that value creation and outcomes in the public sector are complex and multifaceted. Consequently, public sector service provisions are always trapped in the decision of balancing cost-effective services and creating societal well-being. For example, the installation of CCTVs in housing area may help to improve security and in turn reduce the rate of crime. However, it can also develop the perception among the public that security levels are becoming worse, and this thus diminishes trust in the public sector. Therefore, there is a need to understand the integration and relationship between the output and outcome of public sector innovation. This does not occur in the private sector, where standard output measures exist (sales, value added, etc.) that cover all sectors.

Clearly, it is notable at the core that public sector innovation comes from responsibility and providing public value to the customer rather than a limited view of profitability. The element of profit is a paramount objective of innovation in the private sector. The introduction of new innovative products or services will guarantee market competitiveness, and ensure multiple profits of business. Thus, to ensure sustainability and competitiveness, private sector innovation places emphasis on customer relationship and supply management. On the other hand, innovation is not seen as a source of profit in the public sector. As a non-profit entity, innovation in the public sector is only viewed as a methodology to deliver public goods and services (Miles, 2009). Innovation in the public sectors places focus on equity, accessibility, ethics, and privacy as the central issue in innovation.

3.2 Operating Framework

The fundamental difference between both the private and public sectors is that the public sector does not operate in a market-based framework. Bureaucrats in the public sector are the main actors in the practice of public policy, and are heavily influenced by political situations, public attitude, media coverage, and international landscapes. Conversely, in the private sector, entrepreneurs in the existing market are the key drivers who influence customers and organisations in their supply chain. Uncertainty avoidance, risk aversion or the fear of failure have been identified as the largest contrast between both sectors in terms of innovation (Bloch & Bugge, 2013; Sørensen & Torfing, 2012). The risk of unsuccessful innovation may be larger for the public sector due to media and opposition parties. The assumed difference between both sectors is that firms have to take risk in order to survive in the market, while public sector organisations have less to gain from taking risks, and lose if not taking risks (Bloch & Bugge, 2013; Borins, 2000, 2001).

Business competition stimulates private sector innovativeness through the sales and marketing strategies of new products and services. There is less and limited competition in the public sector as the nature of services differs between agencies and institutions (Bloch, 2013; Mustafid & Anggadwita, 2013). In certain services such as the issuance of permits and approvals of important documents such as licences, the public sector is the sole providers of such a service. Thus, the public has no option other than to stick to the service offered by the government. In this situation, there is a possibility of low drive to innovate among the public sector, as it does not encounter any competitors.

However, from a different perspective, the non-existence of competitors should be viewed as a motivation for the public sector to innovate. The failure to deliver the best possible services through innovative approaches of delivery will be the basis for public scrutiny, hence tarnishes the reputation of the government. Only in certain services such as health and education, the public may choose whether to use public or private sector services. In this context, the public sector must innovate to ensure the relevancy of its existence, as well as to avoid any negative comparison to the private sector.

3.3 Nature of Organization Structure

The public sector is often huge in structure, slow-paced in operation, and not bound in volatile ground such as the competitive market of the public sector relating to the responsibility aspect mentioned. According to Aiken & Hage (1968), the size of an organisation also has an influence towards innovation in supporting through budget allocation and providing a conducive environment. Different levels of public agencies, methods in operation and capacities make coordination a crucial element in public sector innovation. Despite the issue of huge size and barriers of communication, the public sector on a global level is in dire need of innovation, and of dealing with some form of competition in the process. In the current dynamic environment, the public sector is more plugged into a competitive mechanism, both nationally and internationally.

As discussed by Breton (1999), government organizations operate in a reasonably competitive 'internal market'. At the international level, countries compete for Foreign Direct Investment through global ranking such as the World Competitiveness Yearbook, Ease of Doing Business, Global Innovation Index and Global Competitiveness Report, among others. Governments are keen to project a public image that will heighten international appeal and attract private investments (Lekhi, 2007). All of these ratings affect the flow of investment to the participating countries. Hence, the requiring governments and public agencies worldwide constantly place their best foot forward. Innovation is considered, quite simply, an imperative for organisational survival (Lekhi, 2007). Public sector agencies have little choice in avoiding these competitive platforms. Therefore, they are forced and poised in a "do or die" situation. Even the public sector needs to prove that it is relevant; otherwise, its function shall be taken up by some other agencies, or new ones shall be set up. Unlike the private sector, which has flexibility, not only in maneuvering between market segments and the market itself, but also internally in how it sets the business model, strategy, implementation, product and services modification, and rewards for innovation.

3.4 Dimensions of Innovation

Unlike the private sector, the public sector deals with a wide scope of product and service coverage, multidisciplines, different customer segmentation, compliance to international standards, and constant pressure from the political ruling or opposing parties. A review of the past literature (e.g., Bloch & Bugge, 2013; Miles, 2013; Sørensen & Torfing, 2012; Bloch, 2011; Pekkarinen et al., 2011; ANAO & Australian Government, 2009; Mathews et al., 2009; Miles, 2009; Windrum & Koch, 2008; Kelly et al., 2003; Mulgan & Albury, 2003b; Koch et al., 2002; Borins, 2002; Sandford, 2001) suggests that there is a similarity and differentiation between the dimensions of innovation used in private and public sectors.

In the private sector, products, services, organisational processes, strategies, positions, business models and communication methods are used as dimensions of innovation. On the other hand, products, services, processes, organisational and communication methods, policies, rhetoricals, governance and collaboratives are dimensions of innovation identified in the public sector. In supporting the idea of demarcation of dimensions of innovation in the public sector, Windrum & Koch (2008) provided six taxonomies of innovation, namely, (1) service innovation (introduction of new service product or improvement in quality of an existing product); (2) service delivery innovation (new or altered way of delivering to clients or otherwise interacting with them for the purpose of supplying public services); (3) administrative and organisational innovation (changes of organisational structures and routines by which front office staff produces services or back office staff support front office services); (4) conceptual innovation (development of new world view that challenges assumption that underpins existing service products, processes and organisational forms); (5) policy innovation (changing in thought or behavioural intention associated with policy belief system); (6) systemic innovation (new or improved way of interacting with other organisations and knowledge bases) (Bloch & Bugge, 2013; Windrum & Koch, 2008).

Bloch (2013) and Hartley (2005, 2013) agreed that an assessment of both the private and public sector dimensions of innovation has implicitly explained that numerous dimensions are similar, with the exception of policy innovation, rhetorical or conceptual innovation (new language and concepts used to mobilise support from the public or from other significant stakeholders), and governance innovation (new procedures and institutions to make decisions about policies and resources for the public sphere). Moreover, Bloch (2013) mentioned that these three dimensions of innovation demonstrate the importance of political context in public organisations. Thus, innovation introduced by public organisations requires a reflection of the wider policy context and public domain, and should not solely be based on organisation consideration (Bloch, 2013).

Possessing a wide scope of subject matter alone requires agencies to deliver value in a complex environment. Therefore, it is premature to claim that the innovation model could easily be imported from the private sector to create value without taking into account the technicalities, key characteristics and sentiments associated with it.

3.5 Accountability towards Innovation

Governments, in terms of policy innovation (e.g., the formulation of national security, development strategies and financial policies), must bear responsibilities for the country. Thus, judgements about the best national interest and form of sustainability are inherently

complex. Innovation in this setting is challenging, and is subjected to a high degree of parliamentary scrutiny and accountability, but with potentially large national pay-offs. This situation has given greater accountability for the public sector compared to its private counterpart.

As a result, public sector decision-making may possibly seem as cumbersome, risk-averse and time consuming. In considering the manner by which to innovate effectively in this context, attention should be paid as to where, when and how the public sector might best engage the private sector to use its particular skills and expertise (ANAO & Australian Government, 2009). Managing perception is important in the public sector, since a positive perception may reflect current government capability to manage the country. Regarding this, the public sector is identified as an instrument of gaining the trust and legitimacy of the public towards the government. Innovation may increase public experience and affect satisfaction, which later influences public perception towards the government's ability to achieve broader societal goals (Bugge & Markus M. Mortenson, 2011).

In addition, public sector innovation may also aim to improve the reputation and legitimacy of the public sector itself. In this context, the implementation of an innovative approach demonstrates the accountability and commitment of the government in meeting higher expectation of the public in strategizing for the purpose of fulfilling the overall vision of the nation (Vigoda-Gadot & Meiri, 2008).

3.6 Flexibility and Rewards to Innovate

In terms of flexibility, Wynen et al. (2013) explained that the private sector is flexible in terms of employment, work organisation and reward systems. Therefore, organisations may recruit the best talent, and re-organise the organisation and reward accordingly based on the current innovation strategy. However, these flexibilities do not exist in the public sector, and they have to rely on the same people, incentives and structure in order to innovate. Borins (2001) argued that, in the private sector, there exists a culture for rewarding successful innovation, which is less common in the public sector. All in all, in the public sector, the incentive to innovate is lower and risks are often higher compared to the private sector (Lekhi, 2007).

The UK public sector also faces a similar situation, where the NESTA reported that “both the organizational and personnel incentives for continuous innovation are lower in the public sector than in the private sector” (NESTA, 2008). Mulgan & Albury (2003) described the public sector innovation earlier as an ‘extra optional or an added burden’ for employees.

3.7 Sources and Diffusion of Innovation

Innovation in the public sector is often in line with the policy of the government. Centralized bodies set the agendas, themes or policies, and agencies abide and adjust their innovation activity accordingly. It could be realized that the public sector largely works on directed innovation, and the source of innovation comes from top down, bottom up and even sideways (ANAO, 2009). It is being diffused freely on one common ground; improving efficiency to deliver public value, as it is an ever endless effort.

In the UK's local government environment, Bloomfield & Hayes (2004) stated that ideas and innovation are not diffused and translated by agencies. This might be the case, but with sufficient ICT capacity, innovation is replicable and diffused throughout agencies. The main point here is that innovation is spread and accepted regardless of its form. The other common practice is that innovation is created and implemented openly and collaboratively. NESTA's (2008) report highlighted that innovation is being implemented in the UK by having the ‘joined-up government’, development of ‘partnership-working’, flat hierarchies, inter-organization and decentralization of financial and policy decisions with clearly-assigned responsibilities. The stated element clearly reveals an open innovation setup.

This is different from open innovation in the private sector, where a company has the flexibility to determine its innovation based on its business model (Magretta, 2002; Zott & Amit, 2008). The governance element that comes in the form of mandate, policy, and strategic direction from the government draws a fine line between open innovations in the public sector compared to the other sectors. In the public sector, knowledge and expertise from various agencies are often capitalised to better serve citizens. Laursen & Salter (2006) mentioned that it is a recipe for success in the public sector compared to the private sector. The National Accounting Office (NAO) (2006) and Audit Commission (2007) both reported that the impact of open innovation of the public sector is generally positive.

The Kenyan government has performed this through creating an effective triple helix, which could potentially harmonise innovation programs for greater economic growth (GII, 2015). In the context of Malaysia, the concept of a quadruple helix was adopted in promoting synergy between the public sector, private sector, universities and citizens, in innovation (Agensi Inovasi Malaysia, 2011). Diffusion of innovation provides another avenue to distinguish between these two sectors. In this setting, protection over innovation is vital in the private sector to increase benefits of temporary rents from monopoly. However, from the public sector point of view, diffusion of innovation across the public (and private) sector may result in the better use of public resources.

■ 4.0 IMPLICATIONS OF THE FINDINGS

As the characteristics from the literature have been compared and contrasted, there are thin but notable differences that exist regarding innovation characteristics in the private and public sectors. From the face value, they might appear and feel the similar, closely identical, competitive in nature, lucrative in shape and exciting in experience; but at the core, a wide gap exists between these two sectors. Speaking in car manufacturing lingo, any form of practice from the other sector must be broken down into individual parts, and necessary adjustments that adhere to necessary specifications must be made, before the parts are reassembled for the public sector.

In short, practices from the private sector could not simply be adopted before the technical aspect and nitty gritty are addressed. Critical functionality fit and feasibility need to be simulated during the adaptation process. On the other hand, the public sector must have the necessary blueprint in the form of sets of requirements, indicators, guiding principles and appropriate business model for it to be guiding and implemented. This is a crucial need for public sector managers in going about innovation. By establishing these elements, innovation related activities could be managed, from the policies, to implementation. The best part is the myth and practice of imposing or adopting private sector practices that could be handled and capitalised.

■ 5.0 CONCLUSION

Having drilled deep in the public sector innovation conceptual level, to the nitty gritty of implementation, and reviewed supporting factors, a set of key differences between the two sectors has been established. Although there is a point of similarity and convergence between public and private sector innovation, complexity in the public sector suggests that the general assumption that practices from the private sector are the best reference for improving public sector innovation, is arguable. A thorough review of literature on the various concepts of innovation from the public and private sector perspectives has found significant demarcation between both sector innovations in term of objectives, governance model for innovation, dimension and diffusion of innovation.

The findings suggest the need for a dedicated concept for understanding public sector innovation, rather than implementing a one-size-fits-all approach to innovation by adopting from the private sector. The correct conceptualisation of public sector innovation will lead to the formulation of the right policy to support innovation, the appropriate business model, implementation of crucial initiatives, innovation process improvements, and measurement to gauge the performance of public sector innovation. From here, further research is required to expand and enrich the literature with a clearer guideline going about innovation. The majority of the discussed subject indicates a greater need for innovation related research in the public sector, as this area remains vague. Although the domain is complex and covers a wide scope, this should not stop researchers from paving the way for improvements, as the public sector is here to stay, and most importantly, everyone is affected by it. The changing environmental aspects, the emergence of new trends and phenomena, and substitution of generations, constantly need innovation. Flexibility, responsiveness, public values, business models, open innovation, balancing indicators and measurements are some of the future research areas to be ventured on. This small step is predicted to trigger more useful insights towards optimal operational efficiency and policy effectiveness by the public sector.

■ REFERENCES

- Agensi Inovasi Malaysia. (2011). National Innovation Strategy : Innovating Malaysia, Creating Wealth Through Knowledge, Technology and Innovation, Putrajaya, Agensi Inovasi Malaysia
- Aiken, M., & Hage, J. (1968). Organizational Interdependence and Intra-Organizational Structure. *American Sociological Review*, 912–930.
- Albury, D. (2005). Fostering Innovation In Public Services. *Public Money & Management*, 25, 37–41. <http://doi.org/10.1111/j.1467-9302.2005.00450>
- Australian Government. (2009). *Innovation in the Public Sector : Enabling Better Performance, Driving New Direction*. Canberra.
- Arduini, D., Denni, M., Lucchese, M., Nurra, A., & Zanfei, A. (2013). The role of technology, organization and contextual factors in the development of e-Government services: An empirical analysis on Italian Local Public Administrations. *Structural Change and Economic Dynamics*, 27, 177–189. <http://doi.org/10.1016/j.strueco.2013.06.007>
- Arundel, A., & Hollanders, H. (2011). A taxonomy of innovation: How do public sector agencies innovate? Results of the 2010 European Innobarometer survey of public agencies, (October), 1–38. Retrieved from <http://eprints.utas.edu.au/12552/>
- Arundel, A., & Huber, D. (2013). From too little to too much innovation? Issues in measuring innovation in the public sector. *Structural Change and Economic Dynamics*, 27(0), 146–159.
- Audit Commission. (2007). *Seeing the Light : Innovation in local public services*. London, United Kingdom.
- Baregheh, A., Rowley, J., & Sambrook, S. (2009). Towards a Multidisciplinary Definition Of Innovation. *Management Decision*, 47(8), 1323–1339
- Bloch, C. (2011). Measuring Public Innovation in the Nordic Countries: Copenhagen Manual. Aarhus, Denmark.
- Bloch, C. (2013). Measuring Innovation in the Public Sector. In F. Gault (Ed.), *Handbook of Innovation Indicators and Measurement* (pp. 403 – 419). Cheltenham, UK: Edward Elgar Publishing Limited.
- Bloch, C., & Bugge, M. M. (2013). Public Sector Innovation: From Theory to Measurement. *Elsevier*, 27, 133–145. <http://doi.org/10.1016/j.strueco.2013.06.008>
- Bloomfield, B., & N, H. (2004). Modernisation and the Joining Up of Local Government Services in the UK : Boundaries, Knowledge and Technology. Paper Presented in Information, Knowledge and Management : Reassessing the Role of ICTs in Private and Public Organisation Conference, 2014. Bologna, Italy.
- Borins. (2000). Loose Cannons and Rule Breakers, or Enterprising Leaders? Innovative Public Evidence About Managers. *Public Administration Review*, 60, 498–507. <http://doi.org/10.1111/0033-3352.00113>
- Borins, S. (2001). Encouraging Innovation in The Public Sector. *Journal of Intellectual Capital*, 2(3), 310–319. Retrieved from <https://vpn.utm.my/docview/205532380?accountid=41678>
- Borins, S. (2002). Leadership and Innovation in The Public Sector. *Leadership & Organization Development Journal*, 23(8), 467–476. <http://doi.org/10.1108/01437730210449357>
- Breton, A (1999) Competitive Government, Cambridge, Cambridge University Press
- Bugge, Markus M.Mortenson, B. . (2011). Measuring Public Innovation In The Nordic Countries (*MEPIN*) Participants. Nordic Innovation Center, Oslo.
- Chaplam, M. M. (2003). The Development of Innovative Ideas Through Creativity Training. In L. V. Shavinina (Ed.), *The International Handbook on Innovation* (p. 366). The Netherlands: Elsevier Science Ltd.
- Clatworthy, S. (2011). Service Innovation Through Touch-points : Development of an Innovation Toolkit for the First Stages of New Service Development.

- The International Journal of Design*, 5, 15–28. Retrieved from <http://www.ijdesign.org>
- Curry, A. (1999). Innovation in Public Service Management. *Managing Service Quality*. <http://doi.org/10.1108/09604529910267082>
- Damanpour, F. (1996). Organizational Complexity and Innovation: Developing and Testing Multiple Contingency Models. *Management Science*, 42(No. 5), 693–716. <http://doi.org/10.1287/mnsc.42.5.693>
- Djellal, F., Gallouj, F., & Miles, I. (2013). Two decades of research on innovation in services: Which place for public services? *Structural Change and Economic Dynamics*, 27(0), 98–117. <http://doi.org/http://dx.doi.org/10.1016/j.strueco.2013.06.005>
- Drucker, P. F., Rossomando, E. F., Drucker (2005). Innovation and Entrepreneurship. NY Harper a Row (Vol. 26). <http://doi.org/10.1023/B:BUSI.0000043501.13922.00>
- Ettlie, J. E., & Rosenthal, S. R. (2011). Service Versus Manufacturing Innovation. *Journal of Product Innovation Management*, 28, 285–299. <http://doi.org/10.1111/j.1540-5885.2011.00797.x>
- Freeman, C. (1995). The “National System Of Innovation” in Historical Perspective. *Cambridge Journal of Economic* 19 (March 1993), 5–24. <http://doi.org/Article>
- Gallouj, F., & Zanfei, A. (2013). Innovation in Public Services: Filling a Gap in the Literature. *Structural Change and Economic Dynamics*, 27(0), 89–97. <http://doi.org/http://dx.doi.org/10.1016/j.strueco.2013.09.002>
- Gault, F. (2013). Innovation Indicators and Measurement : An Overview. In F. Gault (Ed.), *Handbook of Innovation Indicators and Measurement* (pp. 3–40). Cheltenham, UK: Edward Elgar.
- Hartley, J. (2005). Innovation in Governance and Public Services: Past and Present. *Public Money & Management*, 25(June 2012), 37–41. <http://doi.org/doi:10.1111/j.1467-9302.2005.00447.x>
- Hartley, J. (2013). Public and Private Feature of Innovation. In S. P. Osborne & L. Brown (Eds.), *Handbook of Innovation in Public Services* (p. 44). Cheltenham, UK: Edward Elgar Publishing Limited.
- Kelly, G., Mulgan, G., & Muers, S. (2003). Creating Public Value : An Analytical Framework For Public Service Reform. Retrieved December 2, 2014, from <http://webarchive.nationalarchives.gov.uk>
- Kimberly, J. (1981). Managerial Innovation. In P. Nystrom & W. Starbuck (Eds.), *Handbook of Organizational Design*. (pp. 84–104). Oxford University Press.
- Laursen, K., & Salter, A. . (2006). Open for Innovation : The Role of Openness in Explaining Innovation Performance among UK Manufacturing Firm. *Strategic Management Journal*, 27(2), 131–150.
- Lekhi, R. (2007). Public Service Innovation, The Research Republic, Manchester.
- Magretta, J. (2002). Why Business Model Matters ? *Harvard Business Review*, 037 (May).
- Mathews, M., Lewis, C., & Cook, G. (2009). Innovation in the Public Sector: Enabling Better Performance, Driving New Directions. *Management*.
- Miles, I. (2013). Public Service Innovation : What Messages from the Collision of Innovation Studies and Services Research. In S. P. Osborne & L. Brown (Eds.), *Handbook of Innovation in Public Services* (p. 72). Cheltenham, UK.
- Miles, Ian (2009). Innovation in Public Services, *Presentation to Ministry of Science Technology and Innovation (MOSTI)*. Retrieved Jan 30, 2015, www.mosti.gov.my
- Moore, M. H., Sparrow, M., & Spelman, W. (1997). Innovation in policing: From production line to jobs shops. In *Innovation in American Government*. Washington: Brookings Institution.
- Mulgan, G., & Albury, D. (2003a). Innovation in Public Sector. Retrieved March 25, 2014, from <http://www.sba.oakland.edu>
- Mulgan, G., Albury, D., Halvorsen, T., Hauknes (2002). Innovation in the Public Sector : Differences Between Public and Private Innovation. *PUBLIN* (Vol. 16). Oslo. Retrieved from <http://www.citeserx.ist.psu.edu>
- Mustafid, Q. Y., & Anggadwita, G. (2013). Determining Innovation Aspect in the Performance of Public Service Sector. *Journal of Social and Development Sciences*, 4(8), 361–368
- National Accounting Office (NAO). (2006). *Achieving Innovation in Central Government Organisation*. Government of United Kingdom, London.
- Nelson, R. R. (1992). National Innovation Systems: A Retrospective on a Study. *Industrial and Corporate Change*, 1(2), 347–374. <http://doi.org/10.1093/icc/1.2.347>
- NESTA. (2008). *Innovation in Government Organisation, Public Sector Agencies and Public Service NGOs*. London, United Kingdom.
- Nursani, D. (2004). Adopting and Incorporating Innovation a Comparison of Public and Private Organizations in Indonesia.
- OECD. (2005). *The Oslo Manual* (3rd Edition). Paris, France: OECD.
- Pärna, O. & Von Tunzelmann, N. (2007). Innovation in the public sector: Key features influencing the development and implementation of technologically innovative public sector services in the UK, Denmark, Finland and Estonia. *Information Polity: The International Journal of Government & Democracy in the Information Age*, 12, 109–125. <http://doi.org/Article>
- Paul Windrum, & Per Koch. (2008). *Innovation in Public Sector Services Entrepreneurship, Creativity and Management*. (P. Windrum & P. Koch, Eds.). Cheltenham, UK: Edward Elgar Publishing Limited.
- Pekkarinen, S., Hennala, L., Harmaakorpi, V., & Tura, T. (2011). Clashes as potential for innovation in public service sector reform. *The International Journal of Public Sector Management*, 24(6), 507–532. <http://doi.org/http://dx.doi.org/10.1108/09513551111163639>
- Performance, E. B., Cunningham, P., & Karakasidou, A. (2009). *Innovation in the Public Sector. Pro Inno Europe* (Vol. 2).
- WIPO (2015). *The Global Innovation Index 2015*.
- Porter, M. E. (1990). The Competitive Advantage of Nations. (cover story). *Harvard Business Review*, 68, 73–93. <http://doi.org/Article>
- Rogers, E. M., & Shoemaker, F. F. (1971). *Communication of Innovations: A Cross-Cultural Approach*. ERIC Education Resources Information Centre. Retrieved from <http://eric.ed.gov>
- Śledzik, K. (1942). Schumpeter ' S View on Innovation and Entrepreneurship.
- Sørensen, E., & Torfing, J. (2012). Collaborative Innovation in the Public Sector. *The Innovation Journal*, 17(1), 1–14. Retrieved from <https://vpn.utm.my/docview>
- Tang, H. K. (1998). An integrative model of innovation in organizations. *Technovation*, 18, 297–309. [http://doi.org/http://dx.doi.org/10.1016/S0166-4972\(98\)00009-1](http://doi.org/http://dx.doi.org/10.1016/S0166-4972(98)00009-1)
- Van de Ven, A. H. (1986). Central Problems in the Management of Innovation. *Management Science*, 32, 590–607. <http://doi.org/10.2307/2631848>

- Vigoda-Gadot, E., & Meiri, S. (2008). New public management values and Person-Organization Fit: A socio-psychological approach and empirical examination among public sector personnel. *Public Administration*, 86, 111–131. <http://doi.org/10.1111/j.1467-9299.2007.00703.x>
- Wilhelm, B. E. (2003). Innovation Process in Switzerland. In L. V. Shavinina (Ed.), *The International Handbook on Innovation* (p. 915). The Netherlands: Elsevier Science Ltd.
- Windrum, P., & Koch, P. (2008). Innovation in Public Sector Services. In *Innovation and entrepreneurship in public services* (pp. 3–28). <http://doi.org/10.4337/9781848441545.00009>
- Wynen, J., Verhoest, K., Ongaro, E., Thiel, S. Van, & van Sandra, T. (2013). Innovation-Oriented Culture in the Public Sector : Do managerial autonomy and result control lead to innovation ? *Public Management Review*, 16 (February 2015), 45–66. <http://doi.org/10.1080/14719037.2013.790273>
- Zott, C., & Amit, R. (2008). The fit between product market strategy and the performance of entrepreneurial firm. *Organisational Science*, 18 (2), 181–199.