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MANAGEMENT | REVIEW ARTICLE

Innovation in public sector organisations

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Abstract: Public sector organisations around the globe consider the development of new ideas and innovation paramount and inevitable. This is attributable to the intense global competition and rapid technological development. Innovation is the successful implementation of ideas and processes to tackle existing problems and develop new opportunities. The in-depth literature review identified leadership behaviours, the impact of organisational climate and culture on innovation, and barriers to overcome in order to promote innovation in the public sector. A conceptual model illustrates the relationships between innovation and other critical concepts identified throughout the paper.

Subjects: Social Sciences; Behavioral Sciences; Economics, Finance, Business & Industry

Keywords: innovation; leadership; organisational culture; public sector

1. Introduction

The objective of this paper is to present the theoretical underpinnings of innovation and critically review the literature targeting research in public sector organisations. Thus, this systematic literature review and analysis is conducted to gain a better understanding of the dynamics of innovation in public sector organisations and to identify leadership behaviours, and organisational climate and culture that enhance a culture of innovation in the public sector. Evidently, innovation in the public sector has long been criticised for its failure to fulfil expectations of higher efficiency and better service. Therefore, the paper presented various barriers (e.g. cultural differences, conservative solutions, resistance to change and a culture of inferiority) to overcome to promote innovation in the public sector. In addition, the paper intended to support scholars and practitioners in highlighting critical issues necessary to foster an innovation culture within the public

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PUBLIC INTEREST STATEMENT

Innovation is one of the few topics that may extinct around the globe, due to its paramount significance for leaders, communities, nations, and ultimately all of humanity. The rationale behind this school of thought is that change or reforms, and opportunity creation are vital for the survival, growth, excellence, and even dominance of some nations, governments, and organisations. However, what stimulates or hinders innovation in the government sector requires careful attention for a plethora of purposes. A better understanding of how to boost, and promote innovation in the public sector can be of great assistance to governments, and undoubtedly for the benefits of their entire nations. Public sector organisations need to be efficient to contain costs, as well as effective to enhance the quality of services and satisfy their communities' needs.

sector. The outcome of this exhaustive literature review is a conceptual model and propositions that illustrate the relationships between the key concepts. Moreover, it is found that although many researchers have attempted to define the concept of innovation, particularly in the public sector, there has been no consensus on what innovation is. In addition, leadership behaviours that enhance a culture of innovation in the public sector remain ambiguous. From the literature review and analysis, innovators often succeed in less dominant structures and systems; however, public services remain ineffective at learning from better models. Finally, based on the literature, it was apparent that key barriers such as lack of resources and workplace politics negatively influence innovation in the public sector.

2. Search process

Depending on the nature or aim of the review, it may be relevant to solely consider specific studies, when such reviews aim to improve relevant decisions in research or policy (Strech & Sofaer, 2012). In addition, policy makers and professionals in research may not have adequate time or competencies to collect, appraise, and synthesise the relevant literature. Systematic reviews conduct this task and deliver it in a form accessible to policy makers. In this systematic literature review, the authors scoped their search strategy to address articles published between 1980 and 2017 because models of public administration and approaches to public sector reform occurred in the 1980s and 1990s. From 2000 there emerged a new trend towards an organisational model variously termed the “new public service”, the “new public governance” or the “post-new public management” (Denhardt & Denhardt, 2000; Dunleavy & Hood, 1994; Osborne, 2006). Each of these approaches to public administration is associated with different philosophies and conceptual models. The search process was a manual search of specific journal papers published from 1980 onwards. The journals were selected because they are known to include either empirical studies or literature surveys, and to have been used as sources for other systematic literature reviews related to factors affecting innovation in public sector organisations.

3. Literature review

Lee, Hwang, and Choi (2012) examined the contemporary open innovation practices in the public sector of leading countries (e.g., USA, Australia, and Singapore); their findings revealed three significant practices: government-led versus community-led open innovation, the lack of inside-out open innovation, and the need for developing an overarching strategic plan in citizen sourcing. Dumay, Rooney, and Marini (2013) examined cross-sectional empirical data collected from semi-structured interviews with 27 Australian executives in leading Australian organisations and the public sector. Their findings illustrated how senior managers are liable for allowing and resourcing innovation and need to develop competencies required to recognise the innovation type enabled and match it to a relevant strategic approach. Although innovation is often linked to performance conceptually, it may be challenging to empirically establish the relationship between innovation and performance because of the unpredictability of innovation (Tidd, 2001). Gieske, Buuren, and Bekkers (2016) distinguished between three aspects of innovative capacity with which we can evaluate the innovative capacity of public sector organisations: connective capacity; ambidextrous capacity; and learning capacity. Other critical findings include: (a) public sector innovativeness is about balancing between exploration and exploitation (e.g., innovation and improvement within and between organisations); and (b) innovative capacity of public organisations can be improved if a multifaceted approach takes into consideration the building blocks of public innovation processes.

4. Leadership and innovation

One of the main factors that were frequently argued to have an impact on innovation was leadership (Osborne, 1998; Shin & McClomb, 1998). The market innovation literature along with perspectives on public sector innovation showed that within any organisation, an innovative culture must be supported by individuals in power (Borins, 2001). To illustrate the impact of leadership on innovation, researchers have considered various approaches and paradigms to examine how leadership encourages innovation. Several studies demonstrated

that employees' innovative behaviour highly relies on their interaction with others and on the environmental contextual factors in the organisation (Axtell et al., 2000; Zhou & Shalley, 2003). Of all the contextual factors that impact employees' work environment, leadership has been recommended as one of the critical factors for accomplishing individual and organisational effectiveness and innovation (Engelen, Schmidt, Strenger, & Brettel, 2014; Wang, Rode, Shi, Luo, & Chen, 2013).

Kahai, Sosik, and Avolio (2003) and Shin and Zhou (2003) asserted that transformational leadership is hypothesised to stimulate idea generation. A transformational leadership model can assist managers to stimulate subordinates to be more creative and innovative in solving problems (Kahai et al., 2003) and helps them to develop their full potential (De Jong & Den Hartog, 2007). According to Gumusluoglu and Ilsev (2009), this leadership approach consists of creativity-enhancing behaviours. According to McMurray et al. (2012), transformational leaders aim to sell their vision to their employees. As such, employees are more likely to make more effort to pursue the required changes. Osborn and Marion (2009) empirically examined the influence of leadership style and innovation in American and Japanese research-intensive sectors, and surprisingly found that transformational leadership was significantly associated with lower innovation. Despite the interest in transformational leadership, empirical studies have revealed mixed results. Kahai et al. (2003) found a negative relationship between transformational leadership and creativity-relevant processes and results. Other studies also had a negative association between transformational leadership and creativity (e.g. Sosik, Kahai, & Avolio, 1998; Wang & Rode, 2010), while others had different conclusions. For example, Shin and Zhou (2003) found a positive association between transformational leadership and subordinates' creativity.

Cheung and Wong (2011) in a study in Hong Kong in different service sectors (hotel, retail store, restaurant, bank, and travel agent) found a positive relationship between transformational leadership and subordinates' creativity; their research also showed that this positive relationship was stronger when there was a higher degree of encouragement from leaders. Eisenbeiss and Boerner (2013) in a survey of R&D employees working in high-tech medical engineering, electronics, semiconductor, software, chemistry, or biology industries reported that German employees show more creativity under transformational leadership. More recently, Engelen et al. (2014) in a cross-cultural study of 951 organisations in different industries (e.g., financial services, IT, automotive and construction, engineering) from eight countries (Austria, Argentina, China, Singapore, Thailand, Germany, Switzerland, and USA) reported that transformational leader behaviour has a positive influence on innovation at the organisational level.

Somech's (2006) survey of 1,292 members of 136 primary care teams and their corresponding managers found that a participative leadership style is positively related to team reflection and, in turn, to team innovation. Another leadership model that shares some similarities with participative leadership and has been found relevant to creativity and innovation is empowering leadership. This emphasises providing employees with autonomy and freedom and reducing bureaucratic obstructions (Ahearne, Mathieu, & Rapp, 2005; Forrester, 2000). McDonough (1993) and Thamain (1990) found that leadership and professional attitude heavily influence innovative performance. Reiter-Palmon and Illies (2004) mentioned that without enormous support from leaders, it is rather impossible to accomplish creative outputs. Similarly, Simmons (2011) confirmed that supportive creative procedures and policies stimulate creativity. Notably, Rosing, Frese, and Bausch (2011) recommended that it is important to consider the various elements of the process in order to make reliable predictions about the impact of leadership on innovation.

West (2002) considered innovation and creativity the first and second steps in this complex process: complex because these steps do not proceed in a neat linear fashion (Anderson, De Dreu, & Nijstad, 2004; Van de Ven et al. 1999). The only way to embrace this complexity is to develop a detailed model of the influence of leadership on the process (Mumford & Licuanan, 2004).

Proposition 1: Leadership behaviours have a positive effect on innovation at the individual level and the organisational level in the public sector

5. Organisational climate and organisational culture that foster innovation

Some researchers use the terms “organisational climate” and “organisational culture” interchangeably (Schneider, 2000; Von Treuer, 2006); however, organisational climate and organisational culture are two different terms and have been investigated independently. The major difference between culture and climate is that culture emphasises shared values and perspectives within an organisation (Cooke & Szumal, 1993); whereas, climate implies workgroup perceptions of individuals that may or may not be shared (James et al., 2008). Likewise, Peterson and White (1992), culture is a set of assumptions shared by individuals in an organisation that is not recognised easily. Scholars have repeatedly stated that it is difficult to change an organisational culture (Perry, LeMay, Rodway, Tracy, & Galer, 2005) without first addressing organisational climate. Climate implies the traditional assumptions embedded in various organisational phenomena (Allaire & Firsirotu, 1984). As a caveat, when the organisational climate emphasises reliability and efficiency and is not concerned with creativity and innovation, individuals may feel reluctant to take initiative even when they are offered some autonomy (Yukl, 2010).

Additionally, early researchers identified organisational climate as environmental influence and adopted a theoretical framework that assumed climate as mediating relationships and interactions that emerged between organisational contexts and individual employee responses (Ashforth, 1985; Bruhn, 1996). Koys and DeCotiis (1991) reported eight dimensions of psychological climate (e.g. autonomy, trust, cohesiveness, pressure, support, recognition, fairness, and innovation), which derived from over 80 different dimensions in the literature. Workplaces may have a climate that facilitate or hinder learning. Organisations are comprised of different climates (Mikkelsen & Gronhaug, 1999). For example, an organisation may have a climate for service, safety or achievement. Arguably, organisational climate does not imply a climate of an individual, workgroup, occupation, department, or job climate but is psychological construct that is shared by organisational members (Glick, 1985). Tan, Smyrnios, and Xiong (2014) claimed that whenever employees “feel good” about their organisation’s climate, they perform their tasks better and leaders can anticipate innovative behaviour and creativity from them. Hence, the development of a supportive climate for enhancing employees’ innovative behaviour and creativity is not an option. Organisational culture implies the organisation’s personality and reflects values, norms, beliefs, and principles performed in an organisation that can influence how an individual behaves, and makes decisions (Yassin, Salim, & Sahari, 2013). In the development of organisational culture/climate theory, researchers derived a theoretical framework of three broad categories. These are “objectivist” (Payne & Pugh, 1976); “subjectivist” (Schneider & Reichers, 1983); and “interactive” (Ashforth, 1985). These approaches indicate that organisational climate includes and is influenced by the interaction among individuals in organisations and this has an impact on the attitude, motivation, behaviour, and performance of all members of the organisation (Hemingway & Smith, 1999).

Support for creativity was recognised as a significant element that contributed to an innovative climate (Siegel & Kaemmerer, 1978). Creative climate was perceived as the positive approach to creative ideas supported by appropriate reward systems (Tidd, Bessant, & Pavitt, 2001). As such, a link between an organisational climate factor and innovation was established. Baer and Frese (2003) examined organisational climates to identify those climates that positively affected the relationship between process innovation and organisational performance. Baer and Frese examined 47 mid-sized German organisations and reviewed the relationship between process innovations, climates for initiative, psychological safety, and organisational performance. They found that there was a direct relationship between climate for initiative and psychological safety and organisational performance. They also reported that the consistent interactions between process innovations and organisational climate require systematic efforts to enhance climates for initiative and safety. Baer and Frese (2003) also proposed two critical climate dimensions. The climate dimensions involved support for an active approach toward work and successful cooperation that make individuals feel safe in being proactive. In a study that investigated the impact of a supportive climate on innovation, drawing informants

from R&D teams from a research institute and four international R&D firms, delivered that the presence of a supportive and innovative climate in an organisation can facilitate, develop, and implement group members' innovation (Eisenbeiss, Van Knippenberg, & Boerner, 2008).

Wynen, Verhoest, Ongaro, and Van Thiel (2014) indicated that the relationship between managerial power and result control, on one hand, and innovation-oriented culture, on the other hand, is not visible as projected. However, financial management autonomy, high personnel management autonomy, and high result control each confirmed separately to have strong positive effects on innovation-oriented culture. Moreover, when high result control is combined with high financial management autonomy, no considerable effects were concluded. Nevertheless, when agencies have high personnel management autonomy while operating under high levels of result control by government, they would hardly display an innovation-oriented culture. Additionally, their research findings are consistent with the assumption that a high level of managerial autonomy can develop a more innovation-oriented culture in these agencies. However, policymakers should realise that rewarding and penalising high levels of personnel management autonomy for their results may not stimulate innovation. Policymakers should also take into consideration the effect of the agency's financial capacity and its role on the innovation-oriented culture. In other words, the higher the budget, the less likely an agency can develop an innovation-oriented culture. Finally, the organisation's size can also have a positive effect on creating such culture. Larger organisations are more likely to embrace an innovation-oriented culture than smaller organisations. Thus, policymakers may need to develop different strategies for different agencies to stimulate a culture of innovation.

The findings of Dumay et al. (2013) illustrated how senior managers are liable for allowing and resourcing innovation and need to develop competencies required to recognise the innovation type enabled and match it to a relevant strategic approach. This study's implications for policymakers were: different types of successful innovation require diverse approaches, and each can be enhanced, developed, and applied differently. Implications for researchers were: the assessment of both successful and failed innovations, and the development of differentiation theories of innovation practice to avoid or reduce any bias. Nonetheless, innovation in organisations is not adopted solely by individual decision makers (Shalley, Gilson, & Blum, 2000). It penetrates into organisations, moving between social units/departments and goes through stages such as awareness, evaluation, adoption, utilisation, and institutionalisation.

Sorensen and Torfing (2011) claimed that "multifactor collaboration" may enhance the co-creation of new and promising ideas. In the endeavour to advance collaborative innovation as a new, interdisciplinary research field, the authors have demonstrated how the intellectual developments within three different social science disciplines tend to emphasise the role of collaborative interaction for generating innovative ideas in the public sector. Salge and Vera (2012) examined the payoffs from innovative practices in the public sector, and developed three hypotheses regarding the performance consequences of innovation-generating activities in the public sector. Their study added to previous literature two considerable approaches: (a) a positive correlation between innovation-generating activities and public service quality; and (b) the primary role of organisational culture in permitting the organisation to turn innovative practices into concrete performance progress, which remained unidentified in public sector innovation literature.

Proposition 2: Organisational climate and organisational culture positively affect innovation at the individual level and the organisational level in the public sector

6. Barriers to organisational innovation

There are numerous barriers that hamper a culture of innovation in the public sector. Thus, in this section the authors discuss barriers to overcome to innovate in the public sector. According to Rogers, Dearing, and Chang (1991), the major barrier to innovation is not the organisation's

propensity to promote innovation but instead, public administrations create innovation barriers of bureaucracy. Academics frequently stress that cultural differences and red tape are the most significant obstacles (Kimberly & De Pouvourville, 1993). Kanter (1984) indicated a number of environmental factors that are considered barriers to innovate. These include: poor communication; lack of resources; top-down dictates; resistance to change; reinforcing a culture of inferiority such as innovation has to be imported to be worthwhile; and a further study indicated workplace politics as a major barrier. In addition, Vigoda-Gadot (2003a) recognised the following barriers: short-term budgets and planning issues; poor systems for rewards and incentives to innovate; a culture of risk aversion; inadequate competencies in risk management and change management; failure to shut down failing programs or organisations; and constraining cultures or organisational arrangements although technologies are available. On the other hand, Koch and Hauknes (2005) focused on the organisation's size to identify barriers, such as the inherent tension between organising and innovating.

Mulgan and Albury (2003) identified a variety of potential obstructions that can hinder the innovation systems process in the UK's public services, as follows: (a) delivery pressures and administrative burdens: there is a perception within the public sector that the majority of service managers have inadequate time to think about innovations or doing things differently in delivery service. Most of their time is spent responding to their organisation's pressures (Matthews, 2009); (b) poor rewards and incentives to innovate: governments around the world have repeatedly ignored the need for developing incentive systems to promote innovation in the public sector; and (c) technologies available but constraining culture or organisational arrangements: individuals and organisations often resist rapid changes that oppose their organisation's culture.

There are three tactical approaches that might overcome barriers to foster a culture of innovation (Borins, 2001). The first is "persuasion": revealing what can we get from innovation and establishing demonstration activities and projects. The second is "accommodation": seeking advice from affected parties and co-opting affected parties by involving them in the innovation process; training the individuals whose work might be affected; compensating those who might be affected; and ensuring that people's languages and cultures are carefully considered. The third is "others" which consists of a variety of tactics: retrieving additional resources; fixing logistical quandaries; preserving continuous effort; gaining political support and developing alliances; developing a clear vision and focusing on the most significant aspects of the innovation; developing technologies; modifying rules and regulations; and most importantly, providing recognition for participants or supporters of the programme. However, a system-based approach and new managerial thinking may bring effective strategies/tactics that might overcome or at least minimise such barriers (Vigoda-Gadot, 2003a). Pavitt (1991) identified characteristics of large innovative organisations as follows: differentiated and organisation-specific competencies that guide the direction and range of technological opportunities; an organisational structure that enhances the decentralisation management approach required for effective implementations; and the centralisation required for the exploitation of core technologies. Multiple organisational factors may have influenced an organisation's capacity to innovate.

Ingredients of organisational innovation in the literature included shared visions; leadership and the organisational propensity to innovate; thus, the organisation develops strategic intent and commitment across all levels (Hammel, 2000; Kanter, 1984; Kay, 1993). Another significant organisational factor that enhances innovation is the development of an appropriate organisational structure (Mintzberg, 1979; Peters, 1988; Pfeffer, 1994). Extensive innovation from within the organisation and outside the organisation has also been demonstrated to be influenced by organisational wide communication (De Meyer, 1985). Porzse, Takacs, Fejes, Csedo, and Sara (2012) concluded that innovation is a significant construct, which is likely to rely on several organisational factors such as knowledge creation and sharing, learning, leadership, and organisational climate. Hence, the relevant knowledge sharing in an innovation-demanding environment is paramount.

Proposition 3: Barriers (e.g. poor communication, lack of resources, workplace politics) negatively influence innovation at the individual level and the organisational level in the public sector.

The tendency to manage the innovative process to enhance innovative success relies on the organisation's ability to learn and repeat those behaviours (Tidd, Bessant, & Pavitt, 2005). Lastly, The Australian Public Service Commission (APSC) (2016) noted that agencies report the following strategies are beneficial in fostering innovation. These are (a) implementing strategic, digital, and/or innovation plans to foster an innovative culture within the agency; (b) focusing on digital transformation and technology to create and improve processes; (c) encouraging innovative ideas from all employees; (d) providing opportunities for staff to participate in innovation forums, labs, and sessions; (e) rewarding individuals for innovative ideas; and (f) developing committees or councils to offer a coordinated approach to innovation. Finally, the authors proposed a model to show the relationships between the key concepts (see Figure 1). The model is informed by the references in Table 1.

7. Findings and discussion

From the literature, it was apparent that innovation is a complex construct and is examined from various perspectives at different levels of analysis by researchers from different academic disciplines. Public sector innovation does not have a universal definition; however, some elements that public sector innovation may share with business innovation involve change in processes, services, products, or organisational methods with the aim of better quality and efficiency. Further, leadership plays a pivotal role in enabling innovation through a plethora of behaviors and competencies. According to Osborne and Plastrik's (2000) work on innovative non-profits and small public sector organisations, a senior leader's support is crucial for promoting a culture of innovation and to be diffused to all levels in the organisation. Leaders have the ability to promote a culture of innovation, be innovators, and have the capacity to create an organisational structure that supports innovativeness (Peters & Waterman, 1982; Van De Ven, 1986). In other words, leaders have the capacity to innovate through the implementation of new programs and rules that legitimise innovation activities. There is a great emphasis in leadership studies on the significance of demonstrating integrity, being more transparent, and being concerned about ethical protocols (Trevino & Nelson, 2014). Thus, a leader is expected to be a moral and an authentic individual, who is able to transfer great values and ethics to others. In addition, some of the leadership characteristics that are considered vital involve standing for what they believe in, having direct, meaningful, and transparent communication style, building trust relationships with all stakeholders, and ensuring they do not deceive or misguide others in any communication (Stanwick & Stanwick, 2003). This, as a result, is supposed to have positive influence on individuals' performance

Figure 1. The proposed model of innovation in the public sector organisations.

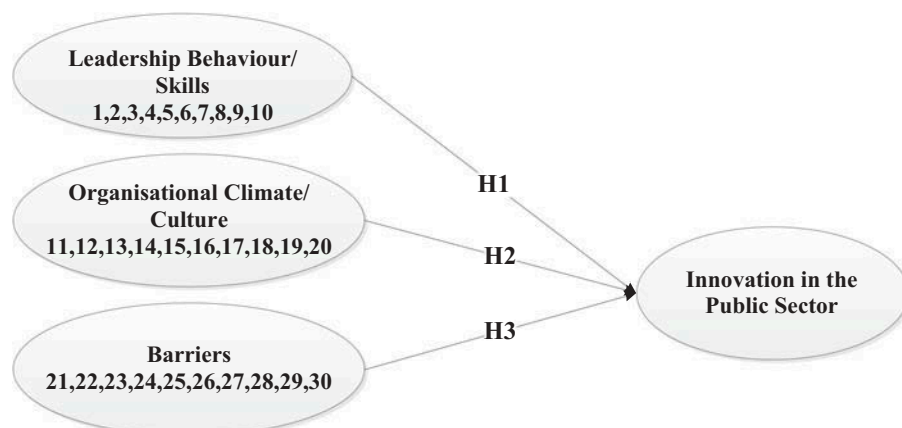


Table 1. Consolidated list of literature

1.	Osborne and Plastrik (2000)	16.	Eisenbeiss et al. (2008)
2.	Engelen et al. (2014)	17.	Wynen et al. (2014)
3.	Wang et al. (2013)	18.	Salge and Vera (2012)
4.	Trevino and Nelson (2014)	19.	Shalley et al. (2000)
5.	Kahai et al. (2003)	20.	Yukl (2010)
6.	Shin and Zhou (2003)	21.	Vigoda-Gadot (2003)
7.	Somech (2006)	22.	Koch and Hauknes (2005)
8.	McDonough (1993)	23.	Mulgan and Albury (2003)
9.	Thamain (1990)	24.	Pfeffer (1994)
10.	Rego, Sousa, Marques, and Pina E Cunha (2014)	25.	Pavitt (1991)
11.	Tan et al. (2014)	26.	Borins (2001)
12.	Schneider (2000)	27.	Rogers et al. (1991)
13.	Von Treuer (2006)	28.	Kimberly and De Pouvourville (1993)
14.	Tidd et al. (2001)	29.	Matthews (2009)
15.	Baer and Frese (2003)	30.	Hammel (2000)

Source: Author.

and attitudes in organisations. Moreover, leadership in organisations aimed at providing support and guidance so that all followers perform particular tasks effectively (Bass, 2008; Dinh et al., 2014; Gardner, Lowe, Moss, Mahoney, & Cogliser, 2010; Yukl, 2012). Therefore, several factors are perceived crucial for effective leadership to occur.

While creativity and innovation lead to changes in organisations, leadership theories that serve to accommodate change are perceived as a strong influence (Dackert, Loov, & Martensson, 2004; Scott & Bruce, 1994). Organisational leadership can be scrutinised from various perspectives (Yammarino, Dansereau, & Kennedy, 2001). These perspectives are reflected at four different conceptual levels of analysis. These are: an intra-individual process, a dyadic process, a group process, or an organisational process (Yammarino et al., 2001; Yammarino, Dionne, Ukchun, & Dansereau, 2005). “Intra-individual processes” involve the personal characteristics within an individual that guides their leadership style. “Dyadic processes” involve the relationship between a leader and a follower and how this relationship is unique with its own set of characteristics. “Group processes” involve the relationship between a leader and a group within an organisation and how these relationships interact. “Organisational processes” involve a holistic view of an organisation with all its subgroups and hierarchical structures with its shared purposes and goals. These processes have been found as critical for leadership to occur (Chun, Yammarino, Dionne, Sosik, & Moon, 2009; DeChurch, Hiller, Murase, Doty, & Salas, 2010).

Furthermore, there are various reasons to investigate the public sector’s ability to innovate. From the literature, innovators often succeed in less dominant structures and systems. Effective ideas are frequently blocked or forgotten. Public services remain ineffective at learning from better models. Other barriers found in the literature involve lack of investment models for innovation in organisations; lack of human and non-human resources; inadequate reward and incentive systems; and lack of mature risk management strategies and methods for experimentation.

8. Conclusion

From the reviewed literature, it was apparent that there is a need for a common understanding on fundamental issues regarding innovation in the public sector. A common understanding on

particular issues regarding innovation is required in order to stimulate a culture of innovation in public sector organisations and to develop some indicators or criteria that can be applied by administrators of public sector organisations to enhance innovation in their processes. Nevertheless, administrators and decision makers need to be aware of the many complexities, constraints, and barriers that are presented throughout the paper in fostering innovation in the public sector. Concisely, Hecht (2008), transformers of government develop innovative approaches to address issues and drive continuous improvement in State programs and processes; drive effective and smooth change initiatives across the State by communicating, confirming understanding, and actively working with stakeholders to overcome resistance. This literature review is limited to factors that impact innovation at the individual level and the organisational level in the public sector. Further studies may investigate the impact of innovation at the societal level. Another area of study could address a cross-cultural comparison of innovation in the public sector. In addition, types of innovation that are considered of great value to the public sector are not clearly identified in the literature.

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