



Research paper

Conditions for innovation in public sector organizations

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ABSTRACT

While a large literature has emerged on the likelihood of innovative activity for firms in the private sector, due to a scarcity of data little is known why innovative activity varies across organizations in the public sector. By utilizing a new source of data, the 2012 Australian Public Service Commission data ($n = 21,093$), this paper is able to overcome these data constraints and provides one of the first studies focusing on the likelihood of innovative activity in the public sector. The empirical evidence suggests that important conditions specific to the public organization influence the likelihood of innovative activity. In particular, experimentation, responding to low-performers, the existence of feedback loops, and motivation to make improvements enhance the likelihood of innovative activity. In contrast, budget constraints do not have a statistically significant effect on single innovation. Thus, the results of this study suggest that intrinsic factors such as experimentation and motivation to improve performance are crucial for achieving innovation in the public sector context.

1. Introduction

In the fifty year span since Kuznets (1962) complained about the paucity of knowledge about innovation, an explosion of research has responded generating what has now become a well-established field of scholarship. Perhaps the most fundamental question emerging in innovation research is why some organizations innovate while others do not (Dosi, 1988; Nelson and Winter, 1982). However, most of the research on innovations at the organizational level has been restricted to the private sector. As Bugge and Bloch (2016, p. 1467) point out, “Innovation has traditionally been studied in the private sector.” Despite an increased awareness of this gap in the literature (Bernier and Hfsi, 2007; Brown and Osborne, 2012; Damanpour et al., 2009; Hartley, 2005; Osborne, 2013; Osborne and Brown, 2013; Verhoest et al., 2007), research on why the propensity to innovate varies across organizations remains remarkably focused on the private sector, while generally ignoring the public sector context.

This paucity of research is unfortunate because considerable anecdotal evidence and examples abound suggesting that innovation in the public sector may play an important role (Geels, 2002; Geels and Schot, 2007; Kuhlmann and Rip, 2014; Turnheim and Geels, 2013). In addition, even a small innovation in the public sector may yield large outcomes or effects beyond the limits of the public sector itself (Aschhoff and Sofka, 2009; Edler and Georghiou, 2007; Edler and Yeow, 2016; Edquist and Hommen, 2000; Edquist and Zabala-Iturriagoitia, 2012; Rolfstam 2009; Rolfstam et al., 2011).

The most obvious explanation for this large gap in the literature is not the lack of interest in public sector innovation (Arundel et al., 2015; Audit Commission, 2007; Arundel and Huber, 2013; Bloch and Bugge, 2013; European Commission, 2011; Hughes et al., 2011; Kattel et al., 2013; Torugsa and Arundel, 2016a,b; Bugge and Bloch, 2016; Ferlie et al., 2000; Ferlie et al., 2005), but rather the same thing that held back research on the topic of innovation in the first place—a paucity of measurement (Bloch and Bugge, 2013). The lack of measurement that characterized the entire field has been largely overcome – but only for private firms, not for public organizations.

The purpose of this paper is to fill this gap in the literature by providing one of the first studies addressing what has become the fundamental question in the innovation literature—why the propensity to innovate (Scherer, 1983) varies systematically across organizations—for the public sector context. We are able to analyze why some public agencies innovate while their counterparts do not by relying on a new source of data made available by the Australian Public Service Commission (APSC). A particular feature of the APSC data is that innovation is measured at the level of the workgroup. The workgroup in the Australian Public Service includes both middle managers and front-line employees with different ranks (e.g. Australian Public Service [APS] 1–6 and Executive Level [EL] 1–2). Torugsa and Arundel (2016a, 394) emphasize that an important advantage of APSC is the focus on “innovation at the workgroup level and [the survey] obtains perspectives of individuals at levels within the government bureaucracy... surveying innovation activities at the workgroup level can provide

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high-quality information on a diversity of innovation activities.

Of course, organizational behavior in the public sector does not mirror that of their counterparts in the private sector. As Bloch (2016, p. 1467) point out, ‘Public sector innovation is often seen through the lens of private sector frameworks.’ Thus, in the following section, distinct hypotheses are developed from the extant literature on specific conditions influencing why the propensity to innovate varies across public sector agencies. In the third section the data sources used to measure innovation in the public sector are introduced, along with other main sources of data. The fourth section provides an empirical test of those hypotheses and discusses the results. Finally, in the last section a summary, and conclusion are provided. In particular, this paper finds that not only does the propensity to innovate vary systematically across organizations in the public sector context, but that innovative activity is influenced by the management and organizational strategies of the organization.

2. Innovation in the public sector context

The most prevalent and consistent definitions of innovation apply to the private sector. Research has identified a number of factors, strategies and managerial practices that enhance the likelihood of organizational innovation in the context of the private sector (Roper et al., 2017; Pakes and Griliches, 1980; Freeman, 1974; Mansfield, 1968; Pavitt et al., 1987; Soete, 1979). Some of these, such as organizational size, location, performance, and investments in human capital through training, are clearly applicable in any organizational context, albeit private or public. As Pierce and Delbecq (1997) emphasize, regardless of the context, innovative activity involves creativity and change.

However, the concept of innovation is influenced by the context and the context always matters. As Arundel and Huber (2013, p. 146) point out, “Measurement requires agreement on how to define innovation in the public sector.” There is an agreement that within the public sector context, innovation has been considered to be a novel idea introduced by an organization (e.g. Bloch, 2011; Damanpour, 1991, 2002; Demircioglu, 2016, 2017; Laegreid et al., 2011; Wynen et al., 2014). For instance, Bloch (2011, 14) argues that public sector innovations “comprise new or significant changes to services and goods, operational processes, organizational methods, or the way your organization communicates with users. Innovations must be new to your organization, although they can have been developed by others.” In the survey that employees filled, the APSC (2012, 32) states that public sector innovations “comprise new or significant changes to services and goods, operational processes, organizational methods, or the way your work group communicates with users”, showing that the measurement of the innovation in the Australian survey is consistent with the literature on public sector innovation.

As Sahni, Maxwell, and Christensen, in *Unleashing Breakthrough Innovation in Government* (2013), suggest, innovation in the government may respond to organizational conditions and managerial practices that are specific to the public sector context. In particular, Sahni et al. (2013) introduce an explicit framework identifying those managerial conditions conducive to innovation in public organizations—experimentation, responding to low-performers, the existence of feedback loops, motivation to make improvements, and budget constraints.¹

The Sahni et al. (2013) framework is adopted for this paper for at least two reasons. First, there are not many established theoretical frameworks for testing which factors and managerial practices in the public sector are conducive to innovative activity. Second and more importantly, in developing their framework, Sahni et al. (2013)

¹ Originally, their second concept is named as the “ability to sunset outdated infrastructure.” Here, this concept is modified to measure “responding to low performers” (i.e. elimination of poor performers), as both concepts refer to similar actions—the elimination/improvement of poor job practices and performances and the elimination/improvement of poor performers.

examined management theories and practices applied them to the study of public sector innovation. This framework has a bottom-up approach and can be adapted to the individual, group, and organizational level of analysis. Overall, this framework is systematically analyzed, theoretically supported, and empirically grounded for practical research on public sector innovation. Sahni et al. (2013) conclude that their framework is supported by contributions from research groups at the Harvard Kennedy School, the Harvard Business School, many municipalities, and the White House Office of Science and Technology Policy. They have surveyed hundreds of people in government, interviewed public sector innovators, and collaborated with many academics in the United States.

2.1. Experimentation

From the self-determination theory perspective, experimentation within an organization is posited to spur innovative activity because employees prefer to feel that they have control over their actions, such that they want to have a choice of how they do their work (Deci and Ryan, 1985; Ryan and Deci, 2000). Intrinsic motivation, according to Ryan and Deci (2000), is “doing of an activity for its inherent satisfactions rather than for some separable consequence” (Ryan and Deci, 2000, 56). Providing choices and opportunities for experiments enhances intrinsic motivation and satisfaction because they can increase employees’ autonomy, competence, and relatedness (Zuckerman et al., 1978). Borins (2001, 34) concludes that “The process of innovation often proceeds by trial and error. Organizations undertake experiments, put in place a process for evaluating the results, and, depending on those results, expand, modify, or scrap the innovation.” Thus, when employees are given opportunities and are able to experiment, employees can enjoy their work and increase their capability, knowledge, and experience; thus, they are more likely to make innovations.

Similarly, Albury (2011, 233) argues that public organizations are able to innovate thanks to “encouraged experimentation” and conclude that “allowing space for innovation and adaptation, openness and deregulation are all absolutely key to whether innovation happens and whether it spreads.” Space, openness, and deregulation are key components that allow public sector employees to experiment and innovate. Likewise, Sahni et al. (2013, 29) suggest that, “Without the ability to develop experimental infrastructure, fundamentally new and different approaches rarely emerge.” The Australian government encourages trials, so employees are able to make experiments related to their jobs. For instance, the APSC states that the “government can encourage greater experimentation and innovation in program implementation and service delivery where one solution is unlikely to successfully address the whole problem” (APSC, 2003, 162). More experimentation increases the likelihood of innovative activity.

Innovative activity is influenced by individual motivation, organizational culture, and the magnitude of the challenge for employees. The magnitude of the challenge is relevant to employees who take risks, experiment, and innovate (Glor, 2001). According to Marfleet (2008, 153), employees tend to work best in organizations that “encourage creativity and experimentation.” Dawson and Denford (2015) argue that government agency leaders and organizations should encourage experimentation because doing so will increase innovative behavior and innovations. Therefore, when employees are able to experiment, they feel more motivated to work, and they can create innovations. Likewise, when employees are given a choice of how to do their work, they can improve their skills and are able to make more innovations. This leads to the following hypothesis:

H1. Experimentation within a public organization will enhance the likelihood of innovation.

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