Rethinking the effect of risk aversion on the benefits of service innovations in public administration agencies

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ABSTRACT

This study applies a holistic approach grounded in configurational theory to a sample of 2505 innovative public administration agencies in Europe to explore the effect of organizational risk aversion on the benefits from service innovations. The analyses, using fuzzy-set qualitative comparative analysis (QCA), identify several combinations of strategies (varying by the agency size and the novelty of innovation) that managers in risk-averse agencies can use to work effectively around the risks of innovating. The findings show that the managers of both high and low risk-averse agencies can achieve high benefits from their innovation efforts, but their strategizing behaviors differ. An integrated strategy that combines collaboration, complementary process and communication innovations, and an active management strategy to support innovation is the most effective method for ‘low-risk-averse’ small agencies and ‘high-risk-averse’ larger agencies to obtain high benefits from either novel or incremental service innovations. Our results point to the need to rethink the conventional assumption that a culture of risk aversion in public sector agencies is a cause of management ineffectiveness and a stumbling block to innovation success.

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1. Introduction

The past two decades have witnessed an increasing policy interest in using innovation to improve the quality and efficiency of public services and thus to produce large benefits from social welfare maximization (Arundel et al., 2015; Brown and Osborne, 2013). Yet there is a broad understanding in the economics of innovation literature that the process of innovation carries significant risks and therefore requires organizations to tolerate both risk-taking and failure (Dodgson et al., 2005). Nevertheless, the pursuit of efficiency in public services often involves the reverse, with a stress on the downside of risk and support for a culture of risk aversion (Potts, 2009; Ritchie, 2014).

In public services, an organizational culture of risk aversion is exacerbated by the vulnerability of users of public services and by the intense and relentless political and media scrutiny that such services receive (Borins, 2001; Chen and Bozeman, 2012). Other causes for a cautionary approach to risk-taking and failure include the difficulties of achieving (and measuring) innovation success (Hartley, 2005), bureaucratic norms that emphasize rules over results and processes over outcomes (Boyne, 2002), and the asymmetric relationship between those bearing the risk involved in innovation and those garnering the reward or incentive (Albury, 2005; Ritchie, 2014). As a result, a risk-averse culture is thought to act as a major impediment to innovation in public services (Brown and Osborne, 2013; Potts, 2009). Yet this view, while widely embraced in the literature, has rarely been tested empirically. Several surveys of public managers have provided descriptive data showing that risk aversion is not a major barrier to the development of innovations (Bugge et al., 2011; Gallup Organization, 2011; UK National Audit Office (NAO), 2000), but none examined the effect of risk aversion on the benefits (or otherwise) from innovation, or took a holistic approach to understand the configurations of conditions under which risk aversion can spur or stifle innovation success.

To the best of our knowledge, this is the first study to employ a holistic contingency approach, grounded in configurational theory, to study the effect of risk aversion on the benefits from service innovations in the public sector. Using data from a large survey of the innovation activities of European public administration agencies, we explore how different levels (high/low) of risk aversion combine with other factors or strategies (i.e., organizational size, innovation novelty, innovation development method, complementary innovations, and an active management strategy to support innovation) to elicit different levels (high/low) of benefits from service innovations. The analyses are restricted to innova-
tive agencies that introduced one or more “new or significantly improved services”, following the definition of a service innovation in the OECD/Eurostat’s (2005) Oslo Manual guidelines for measuring innovation. We focus on service innovations because they are publicly visible and consequently are more likely to attract media scrutiny and hence be affected by a culture of avoiding risk. The public visibility of services also improves the ability of respondents to determine if their innovation is novel or incremental. To capture the heterogeneity in the strategic behavior of agencies with high and low levels of risk aversion, we use fuzzy-set qualitative comparative analysis (QCA) to identify combinations of strategies that are linked to beneficial outcomes and we verify our results using multivariate regression.

The focus of this study is on organizational risk aversion, defined in the survey as the importance of a “risk averse culture in your organization” in “preventing or delaying your organization’s efforts to develop or introduce [innovations]”, as perceived by the respondents, who are senior managers responsible for public administration agencies. This variable assumes that risk adversity is a characteristic of the organization, such that organizations have a specific culture that is separate from the personal attitudes of senior managers (Parry and Proctor-Thomson, 2003; Wynen et al., 2014). Drawing on prior research on risk perception theory, we contend that the agency head’s perception of the risk culture of their organization is a reasonably accurate assessment of attitudes within the organization (see Bozeman and Kingsley, 1998; Chen and Bozeman, 2012), and that risks are usually viewed by agency managers as manageable (Australian NAO, 2009; Slovic, 1987; UK NAO, 2000; Ventris, 1998).

The novel contributions of this study lie in its ability to explore the conventional assumption that a risk-averse culture in public agencies is a cause of management ineffectiveness and a stumbling block to innovation success. The evidence found in this study suggests that: (1) there are several combinations of strategies that managers can deploy to effectively manage or circumvent risks, (2) these combinations are context-specific and differ between high and low risk-averse agencies and between novel and incremental innovations, and (3) the level of risk aversion is a relevant but not deterministic condition for high innovation benefits; rather, the ability of managers in risk-averse agencies to implement appropriate combinations of strategies for managing risk is what drives innovation success. Since imitating what works elsewhere is actively encouraged in public service agencies (Hartley, 2005; Toruga and Arundel, 2016b), non-innovators that fail to successfully innovate due to risk-averse cultures could learn from the strategies used by successful innovators to manage risk and imitate them. The insights from this study thus carry significant policy and management implications.

2. Innovation in public services and organizational risk aversion

There is a growing perception that innovation can contribute to service enhancement and improved productivity in public services, leading to increased pressure on agencies to be more innovative (Borins, 2001; Hartley et al., 2013; Osborne and Brown, 2011). Service innovations in the public sector can vary from highly novel or transformative services to small-scale incremental changes (Hartley, 2005), they can encompass one type of innovation or incorporate multiple innovation types which make them more complex and difficult to implement (Toruga and Arundel, 2016a); and they can be developed in-house or based on adapting new services that have already been implemented elsewhere (Arundel et al., 2015; Bugge and Bloch, 2016). The diffusion of service innovations to other public agencies is particularly important to improving the quality and efficiency of services across the public sector (Hartley, 2005). However, innovation does not always result in improved benefits. For example, new public services can lead to an increase in choices that are not desired by citizens, organizational learning without benefits to future innovations, or decreased performance due to a failure to overcome mistakes, obstacles and dead-ends during innovation implementation (Hartley, 2005).

The implementation of an innovation in public services, as Hartley et al. (2013, p. 822) write, involves “a complex and iterative [but non-research] process through which problems are defined, new ideas are developed and combined, prototypes and pilots are designed, tested and redesigned; and new solutions are implemented, diffused, and problematized”. This process inherently involves risk, but in the public sector potential losses from risk are given more weight than potential gains from an innovation, leading public servants to perceive risk as associated with negative outcomes and largely ignore the potential for positive outcomes (Ritchie, 2014). As contended by Ritchie (2014, p. 13), “the costs [risks] of an [public service] innovation are almost certainly measurable, specific and traceable to the decisions of individuals”, but the benefits of the innovation are often uncertain, difficult to measure and diffused over numerous recipients. This underestimation of relative gains, combined with higher penalties for failure compared to rewards for success and with policy ambiguity that divorces rewards from performance, damages incentives to innovate and unfavorably affects risk perception (Boyne, 2002; Ritchie, 2014).

The risks of innovating in the public sector are further exacerbated by four external factors that can act to support a culture of risk aversion. First, public service innovations are exposed to high levels of public scrutiny and media attention (Albury, 2005). Since service innovations are publicly visible and frequently need to balance contested goals and outcomes (Hartley et al., 2013), they can be exposed to intense scrutiny before the full completion of what is often a lengthy implementation process (Albury, 2005; Arundel and Huber, 2013). Second, even if the service innovation is an adaptation of an idea that has been effectively used elsewhere, in a new context it may not deliver its intended benefits or fail to be accepted by its intended users, the media or politicians (Brown and Osborne, 2013). Third, many agencies produce and deliver services to vulnerable individuals, groups and communities, and consequently the risks to the wellbeing and quality of life of citizens are of great significance when experimenting with new services or ways of doing things (Albury, 2005; Brown and Osborne, 2013). The last factor is the co-existence of different, competing regimes of public sector governance (traditional public administration, New Public Management (NPM), and networked governance), with each having different rules for the role of politicians, managers and citizens and thereby having different strengths and weaknesses for how innovation occurs (for further discussion of implications of different modes of governance for innovation; see Hartley, 2005, 2016). The factors that drive an organizational culture of risk aversion are likely to vary by the governance structure of each agency, with political aversion to risk an important factor in traditional public administrations, a lack of sufficient incentives a factor for NPM, and concerns over citizen well-being a factor in networked governance. Since there can be elements of all governance regimes present at the same time in public agencies (Hartley, 2016), the different factors behind a culture of risk aversion could interact to increase or decrease risk aversion, creating differences in the level of organizational risk aversion across agencies. Unfortunately, we lack data on the governance structure for each agency.

Since government agencies are pushed and pulled in many directions simultaneously, it is hard for them to be able to balance and reconcile conflicting goals and this consequently can stiffen a culture of timidity and organizational risk aversion, creat-
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