An Innovation Typology for Public Service Organizations

Abstract

Existing classifications of public service innovation have limitations. These include drawing evidence and theory from private firms and overlooking the public value, not appreciating the importance of services in innovation and not emphasizing the collaborative nature of public service innovation. In this article we present a typology for defining and classifying innovation in public service organizations that comprises two dimensions: “innovation focus” (three public value creation mechanisms of strategy, capacity and operations), and “innovation locus” (internal or external). Together, these result in six types of innovation: mission, policy, management, partnership, service and citizen. We present propositions and discuss the research and managerial implications.

Key words: Public service innovation, public service organizations, public value, collaboration, service-dominant logic, innovation typology
Public service innovation (PSI) is widely researched by both scholars and governing bodies (Bloch and Bugge 2013; Borins 2014; Moore and Hartley 2008; Walker 2008; Windrum 2008) and is also recognized through award programs (e.g. Innovation of American Government Awards, Innovations and Excellence in Chinese Local Governance, and the Technology Strategy Board). The PSI imperative has gained momentum in recent years. Transparency and citizen collaboration has become more salient, increasing the co-production of services and placing public service organizations (PSOs) and users on a more equal footing in the search for public value (Ansell and Torfing 2014; Lusch and Nambisan 2015). Information technology (IT) is also connecting different kinds of organizations between and across sectors at home and abroad, making innovation more collaborative and open (Chesbrough 2006; Hartley, Sørensen, and Torfing 2013; Lusch and Nambisan 2015). Although the field has generated new ideas such as collaborative government, the understanding of the nature and scope of PSI is still limited. Rarely have public administration scholars tried to accommodate all of the innovative possibilities that demand such attention.

Academic scholars have proposed various classification schemes for PSI, but they suffer from a number of limitations. First, they build from a private sector perspective (Bloch and Bugge 2013; Walker 2006; Wu, Ma, and Yang 2013), which does not reflect the nature and characteristics of PSOs. Typologies derived from the generic management literature place a strong emphasis on manufacturing and products, overlooking the nature of services (Osborne, Radnor, and Nasi 2013). However, services form the core of PSOs, and the characteristics of services are therefore critical to the development and understanding of PSI. A deeper understanding of service organizations permits the appreciation of service components such as intangibility, simultaneous production and consumption, and user involvement in service
delivery leading to co-production (Lusch and Nambisan 2015; Vargo and Lusch 2004). Another limitation of the private sector orientation is that it views the outcome of PSI in terms of shareholder value rather than public value, which is the defining feature of PSOs (Bozeman 2007; Moore 1995, 2000).

Second, we stress the innovation setting in defining and classifying PSI. Extant classifications typically have an internal orientation and do not capture the shift to collaboration and open innovation which emphasizes an external orientation and changing environments (Baldwin and Hippel 2011; Borins 2014; Chesbrough 2006). Public administration has become more external in its orientation as changes in governance and co-production heighten the importance of relationships beyond the organization, and are now factors associated with PSI (Ansell and Torfing 2014; Hartley, Sørensen, and Torfing 2013).

This article contributes to the understanding of PSI by presenting an integrative framework, and specifically a typology of PSI, offering two dimensions to its classification: the mechanism of public value creation or “innovation focus,” and the innovation setting or “innovation locus.” First, working within a framework of adaptive behavior we adopt Moore’s (1995) three sources of public value to classify innovation by its focus: strategy, capacity, and operations mechanisms. Second we classify innovation activity as having a locus that is either internal (i.e. on dimensions endogenous to the organization) or external (i.e. on actors exogenous to the organization) (Benner and Tushman 2015; Hargrave and Van de Ven 2006). By classifying PSIs by the three types of innovation foci and the two types of innovation loci, we develop a new typology that consists of six types of innovation: mission, policy, management, partnership, service, and citizen.

The typology can explain innovation activities by their common dimensions, achieve
economy of memory, and facilitate both communication and the manipulation of observations of innovation phenomena (Fleishman and Quaintance 1984; Fleishman and Mumford 1991). By distilling the multi-faceted phenomenon of innovation into discrete and memorable units, the typology facilitates a shared context in which members of affected disciplines can describe the structure and relationship among the innovation activities. Using the typology as a theoretical foundation, researchers can develop hypotheses related to PSI activities and can also predict circumstances in which they would be desirable (Fleishman and Mumford 1991; Parsons and Wand 2008). Such a typology would bring benefits to practitioners, policy-makers, and academics for a number of reasons. First, it would allow an organization to understand the nature of its innovative behavior. Second, it would be a comparison tool permitting an easy understanding of the nature and extent of innovation between PSOs within and between countries. Third, an innovation typology would be an important dependent variable, for predicting the reasons why different innovation types are adopted, diffused, and managed and to learn more about the characteristics of innovative public agencies. Finally, as an independent variable, an innovation classification can be used in studies of organizational design, performance and governance.

The next section defines PSI and articulates its four attributes. Following this, we elaborate our critique of the existing PSI models, noting the reliance on the private sector and internally focused typologies. We suggest there is a need to recognize the importance of public value and embrace collaborative innovation and the nature of service delivery. We then present a new typology of PSI. Finally, we present propositions on the utility of the typology before concluding with a discussion of its managerial and research implications.
DEFINING PUBLIC SERVICE INNOVATION

We define PSI as the development and implementation of a novel idea by a PSO to create or improve public value within an ecosystem.

This definition emphasizes three activities or process attributes—novelty, development and implementation, and ecosystem—and one outcome—public value. Because the first two have been well accepted as innovation attributes, we pay special attention to the latter two, which also serves as a basis upon which to classify innovation.

First, novelty (novel idea) refers to any new idea that has the potential to be brought through the process of innovation to implementation within an ecosystem. Novelty is a multifaceted concept that can be relatively applied to various adopters (Garcia and Calantone 2002). Different degrees of novelty from distinct perspectives have been used to classify innovation, such as incremental vs. radical innovation (Zaltman, Duncan, and Holbek 1973). Second, we include development and implementation to highlight that innovation is a process or an action (Garud, Tuertscher, and Van de Ven 2013) distinguishing it from its sister concept, creativity. Rather than its realization being concurrent with its invention, any new idea begins when it is generated and proceeds through development and implementation, where it takes on a concrete form and is then introduced to stakeholders. The focus on implementation is particularly important because a PSO may adopt an innovation in search of legitimacy without fully implementing it (Ashworth, Boyne, and Delbridge 2009; Feller 1981).

Third, we emphasize public value as an intended outcome of PSI (Bozeman 2007; Bryson, Crosby, and Bloomberg 2014; Moore 1995). The purpose of a PSO has been oriented toward the creation of public value. Hence, we argue that public value is the defining characteristic of public sector activity. We define public value as the principle on which policies and governance are
defined that lead to improvements in the rights, benefits, and welfare of citizens (Bozeman 2007; Moore 1995). This definition combines the managerial orientation towards public value found in the work of Moore, with Bozeman’s societal or policy orientation emphasizing a normative consensus on values. Moore (1995, 10) equates “managerial success in the public sector with initiating and reshaping public sector enterprises in ways that increase their value to the public in both the short and the long run.” Jorgensen & Bozeman (2007, 357) argue that this definition of public value is more of an example of “quality public management.” To move from the management of value to the creation of value, Bozeman (2007, 13) proposes another definition of public value, “A society’s ‘public values’ are those providing normative consensus about (a) the rights, benefits, and prerogatives to which citizens should (and should not) be entitled; (b) the obligations of citizens to society, the state, and one another; and (c) the principles on which governments and policies should be based.” Bozeman’s (2007) definition of public value is understood relationally because value is defined by society as a whole, and through policy. Through the political process, a “normative consensus” is developed, which regulates the expectations that clients and citizens have for the public sector, and the obligations the public sector can impose on its clients and citizens. For example, when a municipality first offers curbside recycling, it is combining client convenience and concern with sustainability in a way that is integrated with its preexisting capacity to offer sanitation services. When a school board or ministry of education redefines its curriculum, it is implementing a new strategy for student success. When a government offers pathways for communication and transparency to its citizens, it promotes the foundational values of democratic governance. Each of these examples showcases PSO leveraging different mechanisms to create public value. Some are defined within
the organization and then introduced into the ecosystem, while others are explicitly defined by interaction with the ecosystem.

Finally, we situate the innovation process within an ecosystem, in which resource integrating actors engage in mutual value creation (Lusch and Nambisan 2015). This may be a new attribute of innovation activities. Decades ago, an organization largely innovated alone due to its independence. The advance of IT not only makes organizations and people more connected and interdependent, but it also facilitates collaboration among them due to the significant reduction of transaction costs (Baldwin and Hippel 2011; Lusch and Nambisan 2015). Hence, innovations occur not only within organizational boundaries, but also among separate organizations. This is consistent with Van de Ven’s (1986) placement of innovation within an institutional context while also incorporating organizational activities across multi-party networks (Benner and Tushman 2015; Garud, Tuertscher, and Van de Ven 2013; Lusch and Nambisan 2015). PSOs work within an ecosystem that includes participation by citizens, civil society, public partners, private partners, users, and internal members. Citizens and their representatives define policies and measure legitimacy and agencies that share services. Public partners are the other public agencies and non-profit groups within an organization’s ecosystem. Private partners are firms that interact with an organization as suppliers or as examples (i.e. a firm that provides the same or a similar service as the organization). Users are the beneficiaries of public services, and they are also the co-producers. Internal members are all of the stakeholders that are endogenous to an organization, such as employees, administrators, and board members (in the context of a licensing agency or an educational institution).

PSI is typically introduced into an ecosystem through interface between an organization and its stakeholders. Therefore, we need to analyze PSI in light of its unique set of relationships
within the ecosystem. According to Windrum (2008), there are three ways that PSOs engage in innovative activities: as a regulatory body (e.g. licensing boards and practitioners), as an infrastructure provider (e.g. department of transportation), and as the innovator itself (e.g. national defense and security). To innovate, an organization must consider the needs of the regulated professional entities, the partners who share its goals, and the citizens served directly by its innovations.

**EXISTING MODELS OF INNOVATION IN PUBLIC SERVICE ORGANIZATIONS**

To classify PSI, we review the existing typologies, cataloguing their insights and limitations. In their study of governmental innovation, Moore and Hartley (2008) report that the main difficulty in developing a typology for PSI has been the reliance on understanding innovations already developed for the private sector, because they examine process and product innovations. We build upon this argument by recognizing that PSOs deliver public value. In delivering public value, PSOs typically deliver services rather than products. Thus service-dominant logic (SDL) is an inherent characteristic of PSI (Lusch and Nambisan 2015). The delivery of public value has focused on external or inter-organizational relations, downplaying intra-organizational processes over recent years, and this collaborative characteristic is also scrutinized in our critique of existing classifications. In undertaking this review we examine the systems of classification used by PSI scholars: Bloch and Bugge (2013), Moore (1995), Walker (2006),¹ Windrum (2008) and Wu, Ma, and Yang (2013).² Table 1 provides a summary of the key characteristics of the typologies along the dimensions of private sector versus public service orientation, and of internal versus external orientation. It also contains a brief assessment of the origin and

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¹ Walker’s (2006) typology builds upon and expands a typology initially developed by Damanpour and Evan (1984) and is, therefore, not reviewed here.

² Online supplementary materials provide full descriptions and definitions of the classification systems discussed in this manuscript.
orientation of the typologies. We now elaborate on table 1.

[Table 1 about here]

**Private sector orientation versus public service orientation**

Most of the theories and typologies used to explain PSI are derived from studies of private firms that focus on product and process innovation, and are profit orientated. Drawing upon a private sector framework has some validity because public managers may adopt innovations from it, and reform programs such as the New Public Management (NPM) have sought to make government more like business (Bryson, Crosby, and Bloomberg 2014). Similarly, because of the relative youth of PSI studies, it is not surprising that the generic management literature has informed PSI development. However, if researchers focus exclusively on the traits of private firms, then the resulting typologies may miss the key conditions, features and strategies of PSI.

Drawing on innovation frameworks designed for the private sector assumes that both public service and private organizations engage in organizational change in ways that are at least analogous to one another, if not the same. The problem with this is that they differ in the nature of their objectives (profit versus mission), revenue streams (sales versus funding by taxation), and legitimizing processes (shareholders versus political processes) (Bozeman 1987; Moore 2000; Rainey 2009). Consequently, the ways in which they decide to engage in organizational change (legitimizing processes), the reasons why they engage in organizational change (objectives), and their funding sources for organizational change (revenue streams) are all different. The other assumption that this method makes is that innovation is an activity that is primarily realized within the private sector rather than being a crucial means of organizational change. If we take private sector activity as the exemplar of innovation, then we suggest that innovation is a phenomenon that is expressed most fully by for-profit firms and only imitated by
other organizations. This bias assumes that a PSO either does not innovate or it innovates to a lesser degree than a private firm. As a result, we interpret the value of PSI through a lens that is designed to measure different objectives and outcomes within different contexts.

Table 1 displays the private sector orientation of the classification schemes of Bloch and Bugge (2013), Walker (2006) and Wu, Ma, and Yang (2013). These schemes are typically deductive, working from the premise of existing innovation typologies. Bloch and Bugge (2013) adapt the OECD’s private sector innovation model to the public sector and identify product—“a service or good”—and process innovation. Walker’s (2006) typology also reflects this private sector orientation, drawing from the labor market literature (Edquist, Hommen, and McKelvey 2001). Technology is emphasized, suggesting that it is a major driver of PSI. This category would need to be subsumed by service innovation when denoting a technological advance in an offering and organizational innovation when denoting a novel IT infrastructure. The way that Walker (2006, 313) refers to service innovation as being “concerned with what is produced” suggests the influence of goods-dominant logic wherein the PSO is analogous to a factory producing services and policies for public consumption. Wu, Ma and Yang (2013) advance the study of PSI by including governance innovation in the institutional context to capture policy process issues. However, the underlying assumption in Wu, Ma and Yang’s model, like that of Walker, is based on innovation in private sector management and organizations.

Private sector concerns are partially addressed by Windrum’s (2008) typology that includes six innovation types: service, service delivery, administrative and organizational, conceptual, policy, and systemic. Services are given precedence over technology and the institutional context is maintained through “systemic innovation.” Windrum’s typology is also clearly tailored to the public sector with its inclusion of policy (thought or behavioral intentions associated with the
policy belief system) and conceptual innovation (new world views that challenge assumptions underpinning existing services, products, processes, and organizational forms). However, Windrum (2008, 9) seems to simply combine these things with the private sector origins of service, service delivery and organizational innovations without a clear rationale to support the mix.

Moore’s classification scheme is tailored to PSI, emphasizing that PSOs provide services primarily through programs, and includes a category similar to Windrum’s (2008) conceptual innovation: strategic innovations which “seek to redefine the basic purposes of core technologies of an organization” (Moore 1995, 234). The typology is oriented toward fulfilling the mission of an organization, not only in how program innovation is defined as, “new ways of using an organization’s resources to accomplish its overall mission,” (Moore 1995, 233) but also hierarchically with strategic innovation being accomplished by varying the amounts of the other two types of innovation: program and administrative.

Services have long been characterized as different from products because of the characteristics of intangibility, simultaneous production and consumption and coproduction (Lusch and Nambisan 2015; Normann 1991; Osborne, Radnor, and Nasi 2013; Vargo and Lusch 2004). Recent research suggests that in the new service economy, the traditional goods-dominant logic, is being replaced by a SDL in which service—a process of applying one’s competence to benefit others—rather than goods is viewed as fundamental to economic exchange and the customer as the co-creator of service provision (Vargo and Lusch 2004). Based on this service-dominant logic, the local department of transportation, for example, is not viewed as a provider of a physical traffic-regulating infrastructure, but as a provider of a service, to wit, safe transportation that is distributed by traffic signals and roads. The SDL was extended to the PSO
by Osborne, Radnor, and Nasi (2013) and labeled “public service-dominant logic”.

The focus on services moves away from traditional goods or product-dominant logic when a transfer of ownership takes place and it is replaced by the process of applying one’s competence to benefit others (Lusch and Nambisan 2015; Vargo and Lusch 2004). The intangibility of services is different from products in that “production and consumption occur simultaneously” (Osborne, Radnor, and Nasi 2013, 139). Osborne, Radnor, and Nasi (2013) cite reducing unit costs through reduced labor costs as an example: production automation may bring efficiency gains without altering the product. However in services, reducing labor input leads to a very different experience by users. Because production and consumption are simultaneous, no two-service experiences are identical, and users are central to the way in which the service is experienced. Thus the role of the user is that of a co-producer of the service (Hartley, Sørensen, and Torfing 2013; Lusch and Nambisan 2015).

No prior PSI classification scheme has explicitly drawn upon SDL or included its three characteristics. The frameworks do, however, recognize the service characteristics of PSOs and the innovations they develop. For example, frameworks such of those created by Walker (2006) and Wu, Ma, and Yang (2013), while drawing upon a private sector tradition, identify the importance of service innovation and note the two SDL characteristics of intangibility and simultaneous production. Windrum (2008) also makes explicit reference to services, drawing upon evidence and theory from the literature to build his taxonomy. Bloch and Bugge (2013) seek to differentiate services from products and services in the public and private sectors. However as noted above, they rely upon a definition of innovation that places goods centrally, whether they are products or services.
Internal orientation versus external orientation

Perhaps, partially due to product orientation and partially due to the independence of organizations throughout history, innovation typologies typically rely on an internal orientation. For example, while Moore’s (1995) typology focuses on public service, it is also inward looking and is not situated within an ecosystem. Such an internal orientation is useful and perhaps sufficient when inter-organization collaboration is not so prevalent, as when Moore proposed his typology. Similarly, the application of NPM and neo-Weberian driven logic to PSI are also strongly orientated towards management practices and the role of entrepreneurial leaders, giving them an overtly internal and inward facing orientation (Hartley, Sørensen, and Torfing 2013). However, in the current much more connected world, we might need to adjust this (Baldwin and Hippel 2011; Benner and Tushman 2015; Lusch and Nambisan 2015).

Osborne, Radnor and Nasi’s (2013) application of SDL to public service management emphasizes inter-organizational behavior in relation to the coproduction of services. An inter-organizational perspective is now central to the study of PSOs because collaboration, networking, and coproduction are central features in the delivery of public services and PSI (Ansell and Torfing 2014; Hartley, Sørensen, and Torfing 2013). The concept of open innovation, developed in the generic management literature, identifies innovation as occurring in the relationship between an organization, its customers and its partners (Chesbrough 2006; Baldwin and von Hippel 2010). The open innovation perspective brings in the notion of ecosystems to capture collaborative arrangements with other organizations and service users in which resource integrating actors engage in mutual value creation (Lusch and Nambisan 2015). The growth of collaborative innovation is also empirically verified. It was a key characteristic of innovation among the Harvard Innovation Award semifinalists: external collaboration grew as a
characteristic from 28 percent of the semifinalists between 1990-1994 to 67 percent in 2010 (Borins 2014).

Table 1 indicates that two of the five typologies address questions of collaboration. Walker (2006) explicitly recognizes the inter-organizational nature of innovation, identifying ancillary innovation. In a similar vein Wu, Ma and Yang (2013) identify collaborative innovation as relationships with other organizations, implicitly excluding users. Systemic innovations are inductively built from the case studies in Windrum’s (2008,10) taxonomy and include “interacting with other organizations and knowledge bases.” Both of these innovation types constitute a step toward recognizing the importance of partners. However, they also suggest that an ecosystem is a necessary but secondary support to the primary work of service and policy production rather than being part of the institutional context in which PSI is situated. In short, the majority of innovation types referred to in the public administration literature are largely internally orientated.

DEVELOPING A TYPOLOGY OF PUBLIC SERVICE INNOVATION

To develop a PSI typology that reflects our concern over prior classifications and which focuses on the attainment of public value, we combine the mechanism of value creation, or innovation foci, with the locus of innovation. As discussed below, we classify innovation by its foci or the three mechanisms of creating public value (strategy, capacity and operation), so that our typology is oriented to the nature of public sector organization, avoiding a private sector orientation. We also classify innovation by its locus, which embraces both an internal and an external orientation. Through classifying PSI by the three types of innovation foci and two innovation loci, we develop a new typology including six types of innovation (Table 2).

[Table 2 about here]
First, the typology builds upon the concept that an organization has three foundational issues related to its creation of value, as seen in the strategic management and planning literature (Bryson 2011; Miles et al. 1978; Moore 1995). We contend that how an organization creatively addresses these issues constitutes the three basic mechanisms of its innovation—the innovation focus. Studies of adaptive behavior tap into this theme, a notable example of which is the study on strategic choice by Miles et al. (1978) that has been extensively applied to PSOs (Edwards, Poister, and Pasha in press; Walker 2013). Miles et al. (1978, 459-460) proposed an adaptive cycle to ensure alignment with an environment that sees organizations tackle entrepreneurial, administrate, and engineering problems. The entrepreneurial problem involves the development of a concrete definition of an organization’s domain. The administrative problem primarily concerns rationalizing and institutionalizing the activities that successfully solve its organizational problems. The engineering problem involves the creation of a system that operationalizes the management’s solution to the entrepreneurial problems. Similarly, Moore’s (1995, 39-52) work on public management proposes three sources of public value: the concept value of the authorizing process, the capital value of the institutionalizing process, and the value of the operationalizing process. Concept value reflects an organization’s mission and the guiding principles to achieve its mission through an authorizing process that politicians, boards of governors and public managers engage in to balance the needs of various stakeholders. Capital value reflects infrastructure and competence built by an organization over time, and operating value reflects the ability of an organization to bring services to its clients.

Second, the typology also builds upon the concept of innovation locus, reflecting the latest change to the innovation phenomena and research, spanning the gap between the narrowly concentrated innovations within an organization to the broadly distributed innovations among
organizations. We build upon Hargrave and Van de Ven’s (2006) perspective of the value focus that sees organizations zoom out on multiple actors in the inter-organizational field and zoom in on a single actor in the intra-organizational field. Similarly, researchers argue that if knowledge creation is widely distributed among independent external actors, the associated innovation boundary is fundamentally different than when such knowledge is held within an organization (Benner and Tushman 2015; Nickerson and Zenger 2004).

This shift of innovation locus is reflected in both the private and public sector literature, in which the inter-organizational alliances or collaborations are the units of study (Dyer and Singh 1998; Hartley, Sørensen, and Torfing 2013). Due to the new service economy, the traditional goods-dominant logic is being replaced by a service-dominant logic (SDL) in which service—a process of applying one’s competence to benefit others—rather than goods is viewed as fundamental to economic exchange and to the customer as the co-creator of service provision (Lusch and Nambisan 2015; Vargo and Lusch 2004). A similar paradigm shift is occurring in the innovation literature as the combined technical and administrative aspects of business innovation are further supplemented by innovative activities that include both partners and clients (Chesbrough 2006; Baldwin and von Hippel 2010). With the rise of NPM, and its emphasis on operational excellence, managers are being called upon to adopt an entrepreneurial mindset (Meynhardt and Diefenbach 2012). The public management literature also emphasizes the importance of understanding the partnership and network’s inter-organizational characteristics regarding the current patterns of service delivery (McGuire 2006). This is most clearly expressed in the stream of work that examines the co-production of public services (Alford 2002; Ansell and Torfing 2014). Further, the public management literature has turned towards SDL in its search for a theory that is more related to the purpose of the sector (Osborne, Radnor, and Nasi
2013). Each of these is an example of the movement in management scholarship from an intra-organizational to an inter-organizational perspective, and from the perspective of isolated organizations to related organizations, as reflected in the public management literature.

**Innovation Focus**

The *strategy mechanism* involves the authorizing process that politicians and public managers engage in to balance the needs of various stakeholders in defining an organization’s mission and its guiding principles. Existing *independently* from the service provisions of an organization, this mechanism involves the organization’s response to the requirements of political actors, such as the politicians who draft political mandates, boards of directors that specify the organizational mission, and the voting public that elects them into office (Moore 1995). The ongoing authorizing process creates value because it can “satisfy or disappoint citizens who desire a fair, efficient and effective public effort” (Moore 1995, 50) and because citizen satisfaction is an important part of the success or failure of a PSO. Multiple stakeholders are involved in the creation of public value, so all stakeholders may not be satisfied. However, the principles of fairness, social responsibility and efficiency can be satisfied through a process that ensures individuals are consulted (Moore 1995). Moreover, this process creates a polyarchical structure, which through its role as a decision-making authority improves the stability of the state. An organization that decides which programs or services are needed for the welfare of the citizens is leveraging the authorizing process to create value. Strategic innovation develops a more efficient and fair mission and principles embodying the benefits and obligations of the stakeholders, which creates better concept value. Implementing strategic innovation means reaching an agreement among the various stakeholders and documenting the agreement.

The *capacity mechanism* involves instituting a process that provides an organization with the
administration, structure, expertise, management, technology, and resources necessary to accomplish its politically mandated mission. This includes the ability of management to effectively bring the workforce together for the purpose of the mission, to put the policies and processes in place to enable employees to fulfill their roles, and to involve accounting systems in the budgeting process of an organization. This cumulative experience and operating capability is valuable for society. The capacity of an organization is “rooted in its ability to adapt its specific methods to new aspects of environmental change and its ability to produce new things potentially valuable to the society” (Moore 1995, 52). This creates a two-fold understanding of the importance of having an organizational infrastructure. On the one hand, it enables the organization to achieve its goals efficiently and effectively. On the other hand, it enables the organization to be adaptable and innovative. To maintain its capacity, an institution will seek to improve its internal organizational procedures and external relationships with partners. Capacity innovation prepares an organization to deliver public value to its stakeholders.

The operations mechanism involves the process that an organization uses to put its strategic decisions and policies into action for the sake of its mission. An organization can launch new programs or services or it can reorganize its resources to improve programs or services. While the authorizing process may define the type of services offered, and the capital of the organization may enable it to both fulfill its role efficiently and adapt to the changing environment, the operating mechanism constitutes the programs and services that citizens normally associate with PSOs (Moore 1995). Operations innovation more efficiently and fairly delivers public value to the stakeholders, creating better operational value.

In short, the authorization process ensures that an organization’s mission reflects the desires of legitimate political authority. To maintain its capacity, an institution seeks to improve its
administrative procedures and relationships with partners. To ensure mission effectiveness, an organization seeks to improve its operating value.

**Innovation Locus**

There are two ways an organization can direct its efforts when engaging in innovation activities for the purpose of creating value (Benner and Tushman 2015; Hargrave and Van de Ven 2006). First, an organization can direct its activities inward, defining its purpose and intentions, and creating the infrastructure and programs to actualize those intentions. Second, an organization can direct its activities outward, partnering with other organizations and users to leverage their infrastructures and competencies, or to co-create public value with the citizens. A PSO must transition any in-house development to its clients and have the option of relying on partners in that process (Hartley, Sørensen, and Torfing 2013).

By internal, we mean innovation activities that can be accomplished by the focal organization alone. This does not mean that other groups do not have input or that external inventions are not considered, but rather that the nature of these innovations is such that they are within the capability of a single organization. A PSO may locate its innovative efforts internally when dealing with contentious topics, issues of privacy, security and private interests, or where there are ideological or power differences (Gray 1989; Hartley, Sørensen, and Torfing 2013). By external, we mean innovative activities that are contingent on the existence of organizations or stakeholders outside of the focal organization and the circumstances that permit joint and collective actions.

We bifurcate innovation activity into having a focus that is either internal (i.e. on dimensions endogenous to the organization) or external (i.e. on actors exogenous to the organization). An internal focus involves what an organization is, how it operates, and what it primarily offers.
Management attempts to answer the important question of what its purpose is and how it might improve its capabilities and services. Innovation in this area would include changes in an organization’s identity, whether at the strategic level, the capacity level, or embodied in a concrete operational offering. Conversely, an external focus involves the ways an organization interacts with others by imposing obligations on citizens, seeking partnerships with other organizations, and facilitating co-creation with the citizens. The main question that management must address is how to actualize its purpose within the ecosystem. The internal focus of innovative activity is necessary due to the nature of organizational change. Even in a political environment where change occurs through debate and dialogue between stakeholders outside of the immediate organizational environment, development occurs at the organizational level. At the same time, an external focus is necessary because implementing innovations in PSOs can occur above the organizational level (Borins 2014; Moore and Hartley 2008; Wu, Ma and Yang 2013).

**The Six Types of Public Sector Innovation**

When an organization directs its activities toward strategic questions concerning its purpose, it begins by developing its values internally by engaging in *mission innovation*. This process can lead to PSI in the mandated purpose the board of directors, politicians and senior managers envision for an organization. Mission statements that articulate such a purpose are thus supportive of the public value processes. The organization directs its strategy mechanism outward by putting into practice *policy innovations* that define benefits to and impose obligations on its clients, the citizens, and other organizations. An organization that innovates in this area will implement new policy statements that better reflect its political mandate and increase its ability to offer benefits to its clients and the citizens. Managers may retain the same mission
statement, but they can expand their understanding of it, allowing them to offer policies that are not traditionally assumed to be a part of their purpose. The organization may then direct its strategic activities to the ecosystem by introducing new benefits, regulations, and obligations to its clients and its partners.

When an organization develops its capacity, it promotes organizational productivity and suggests more intangible and relational values to its clients and partners, such as responsiveness and openness (Jørgensen and Bozeman 2007). Innovations in this realm seek to develop the capacity of the organization, internally and externally. Internal capacity is generated through the adoption of management innovation: “the generation and implementation of a management practice, process, structure, or technique that is new to the state of the art and is intended to further organizational goals” (Birkinshaw, Hamel, and Mo 2008, 829). Walker, Damanpour, and Devece (2011) note the two-dimensional nature of management innovation. First, the IT dimension reflects the use of new management and office information systems to advance operating system efficiency. Second, the administrative aspect of management innovation adopts a new organizational structure, management systems, and processes to make the work of management more effective. Conversely, when an organization develops its capacity externally, it is engaging in partner innovation. By forming innovative alliances, an organization can expand its own competencies by accessing the competencies of its partners. Rather than adding an administrative function, an organization can partner with another organization that already has that function in place.

To ensure mission effectiveness, an organization must seek to improve its operations, which include service and citizen innovation. Service innovation is the concrete way an organization applies all other innovations, from mission to partner innovation, to a particular benefit
experienced by its clients. Whether through the promotion of human dignity, sustainability, or national stability (Jørgensen and Bozeman 2007), service offerings are the visible result of PSI. A public services manager can innovate in this area by offering new services that better facilitate the mandate represented by the organization’s mission statement or promised by its policies.

Citizen innovation involves collaboration between citizens and public sector managers, including outreach channels to promote public sector activity and platforms designed by managers to facilitate citizen co-creation. If a citizen, whether as a client or as a taxpayer, becomes involved in the innovation process at any point from idea generation to implementation, then the role of that citizen has transitioned from being a passive recipient of services to an active co-creator of services. Managers can facilitate this transition by inviting citizen engagement through collaborative platforms. For example, when a local police force designs and regulates a neighborhood watch program, they are providing a platform that both fosters transparency and increases their capital value by leveraging the abilities of the residents. While service innovation is directed inward, citizen innovation is directed outward because it provides a way for that same mission statement to be influenced by the people it is designed to serve.

Table 3 provides an overview of the new typology together with those of Moore (1995), Walker (2006), Windrum (2008), Bloch and Bugge (2013) and Wu, Ma, and Yang (2013). All of the authors include management and service innovations, or a variant of this. Mission and partner innovations are used in two of the typologies, and policy and citizen innovation is present in Bloch and Bugge’s more recent offering. This overview suggests that our typology is complete, covering the range of innovation types suggested by the other authors. It maintains the important typology characteristics of mutual exclusiveness and has internal homogeneity, drawing upon the focus and locus of innovation.
IMPLICATIONS AND CONCLUSION

This typology advances our understanding of PSI and speaks through the relevant literature to provide new insights for research and management. In locating PSI within a public value locus focused both internally and externally, PSO research can move forward to examine the adoption and diffusion, innovative characteristics, organizational innovativeness, innovation management and performance consequences.

Implications for research

We now present six propositions to demonstrate the utility of the typology for innovation. The propositions draw upon the innovation mechanisms of innovation focus and locus to develop new insights into the adoption of innovation and its antecedents.

Innovation focus

Proposition 1: \textit{PSIs in strategy focus are more complex, less controllable, and more difficult to implement than PSI in capacity and operations focus.}

Innovation in strategy focus defines the purpose and objectives of a PSO. Developing and implementing the mission and policy innovations is challenging on a number of levels. Here we focus on the stakeholders, the implementation approach and the changing organizational behavior. Strategy innovations are complex because they involve questions related to an organization’s purpose, goals, direction and future orientation. The various stakeholders involved—politicians, citizens, public managers, civil society representatives and business actors—may contest the direction of change initiated by a mission or a policy innovation. The multiple stakeholders involved in mission and policy innovation make the process of managing the innovation implementation process less controllable as many voices have to be
accommodated. Managing a complex group of stakeholders can reduce the level of control the focal innovating organization has, thereby creating difficulties in implementation. Complexities surrounding the stakeholders exist for capacity and operations innovations. However, these diminish, particularly because there are alternative implementation strategies and ways to bring about change in organizational behavior.

Implementation strategies include depth and breadth (Lindquist and Mauriel 1989). Depth approaches are readily achieved in capacity and operational innovation because pilots can be conducted when new management practices or services are introduced. The depth approach secures support from internal and external stakeholders, and permits adaptation of the innovation to the organization’s circumstances (Walker 2003). It is a more demanding task to implement new missions and policies through a depth approach rather than to rely upon a breadth strategy in which the innovation as a whole is rolled out across the PSO. When a strategy innovation is rolled out across a PSO through a breadth strategy, there may be uncertainty, because a new direction in the mission or the policy may result in a sea change in the organizational direction. The same logic applies to initiating new ways of behaving in PSOs that have adopted such a strategy. As depth approaches to implementation allow more control they are also tangible. When an innovation is more tangible it is possible to develop training programs for staff, performance metrics can be specified, and evaluating the success (or not) of the innovation is easier, allowing information on the achievement of organizational change to be reported. Walker’s (2003) case study of management innovation in nonprofit housing organizations identifies the successful use of depth implementation strategies for managerial and service innovation, in keeping with Lindquist and Mauriel.

Innovation locus
Proposition 2: *Inter-organizational PSIs are more complex, less controllable, and more difficult to implement, than intra-organizational PSIs.*

Externally orientated PSIs are reliant upon partners, stakeholders and collaborators, which makes them inherently more complex and difficult to control and implement than internally orientated PSIs (Borins 2014). Hartley, Sørensen, and Torfing (2013) offer two problems that can arise when a PSO seeks to realize an inter-organizational innovation. First, the actors may lack the ability or have prior negative experiences with collaborative relationships that reduce their commitment to developing and implementing PSI. Actors may also be reluctant to offer the time, effort and resources that are necessary to develop joint policies, partnership or citizen innovations. By contrast, intra-organizational innovation can draw upon the systems of management, authority and control located in the organization’s hierarchy to drive forward innovation projects. If actors are resistant to the development of PSI, new resources can be deployed to resolve such difficulties. Second, while the actors in the inter-organizational network adapt their behavior to innovate in response to environmental change, there may be conflicts that arise which diminish the ability of the collaborative organizational arrangement put in place for the innovation, and thus hamper its implementation, if not throw it off track completely. Control of the innovation process by a single organization reduces the likelihood of these difficulties arising.

Radical and incremental innovation

Proposition 3: *Inter-organizational PSIs will be associated with more radical innovation characteristics than intra-organizational PSIs that will be associated with incremental innovation characteristics.*

The innovation locus—inter or intra-organizational—will be associated with the innovation types
radical and incremental. Radical innovations are associated with a number of innovation characteristics including complexity, comparability, trailability and relative advantage (Rogers 2003; Tornatzky and Klein 1982). Innovation radicalness is important because it has consequences for the adoption of innovation, implementation and management process, and the effect the innovation has on the PSO and public value. Given the shift towards inter-organizational behavior and innovation it is likely that more radical innovations will be found in settings that involve multiple actors, be that at the policy, partnership or citizen level. This is because inter-organizational innovations are likely to draw upon the ideas, experiences and resources emanating from a range of actors and organizations, and that depart from the existing organizational practices of the members of the collaboration. As more radical inter-organizational innovations move away from existing organizational practices they are also likely to be less compatible with existing organizational behavior, and be more complex and harder to trail. Borins (2014) finds that larger-scale planned innovations are associated with collaboration.

Intra-organizational innovation adoption and implementation will be influenced by familiarity or compatibility with existing practices, be less complex and easier to use. These characteristics suggest that the adoption of intra-organizational innovations are more likely to be incremental in scale, because they need to be compatible, offer advantages and not be overly complex, and they are also more likely to be influenced by the prevailing behavior, practices and routines within an organization. Empirical support for Proposition 3 can be found in Damanpour and Schneider’s (2009) study of innovation in local American government. Using the International City Managers Association data they identified 25 innovations which can all be defined as managerial or service delivery.
Synchronous relationships

Proposition 4: *There are synchronous relationships between different innovation types that will lead PSOs to implement a number of PSI types*

Theoretically a PSO can develop innovations alone and not in combination with other innovation types. However, it is unlikely that they will develop single innovation types because as opposed to private firms they are not developing product or technological innovations and as PSOs face multiple competing goals. The SDL emphasizes inter-organizational and citizen-focused relationships and thereby suggests that there is a supportive relationship between innovation types. This can be hierarchical, moving down the innovation focuses of strategy, capacity and operation (as noted above) or configurational moving between different innovation types. The hierarchical inter-relationships between innovation types are enabling: mission and policy innovation enable the remaining four types of innovations, while management, partnerships, and citizen collaboration directly enable how services are offered. These three categories of innovation focus, along with their corresponding types of innovation, can also have hierarchical inter-relationships. A strategic focus defines the boundaries of capacity and operation, and capacity enables operation.

New practices, procedures and behavior can be related to missions, partnerships, management, or services in developing new innovations in strategy, capacity or operation. On many occasions, innovations are developed as a chain reaction: the implementation of one innovation may result in additional innovations at later points in time (Walker 2008). For example, the introduction of a new service is very likely to subsequently require management innovation to introduce new management practices that support the service. The nature of these inter-relationships has been noted in studies of innovation adoption and of the consequences of
innovation (Damanpour, Walker, and Avellaneda 2009). The intertwining of innovation types has been called synchronous (Georgantzas and Shapiro 1993) and configurational (Walker 2008), and presumes that real benefits arise when different innovation types are linked together in complex ways, with their adoption bringing harmony to an organization (Miller 1986).

Organizational environments

Proposition 5:  In a more dynamic environment, a PSO’s innovative behavior in the strategy, capacity, and operations innovation focus will be non-linear, in an inverted U shape.

Dynamic organizational environments are typified by uncertainty and unpredictability (Dess and Beard 1984). Environmental uncertainty is an external shock, which can jolt a PSO into specifying mission and policy innovations and then support these through changes in organizational capabilities. For example, Hurricane Rita, which devastated New Orleans, resulted in a wholesale change in the mission and policy, together with the management and partnerships of the Homeland Security Agency as it sought to restructure to ensure crisis management could be successfully delivered. A crisis can make an organization more willing to accept or to take on radical change as it unfreezes its built-in framework. However, in dynamic environments, when uncertainty is accompanied by unpredictability, the capacity of organizations and managers will be diminished. As a consequence, more dynamic environments are likely to frustrate attempts at innovation across all innovation types as managers seek to buffer their organizations from the external environment (Boyne and Meier 2009). Conversely, incentives to innovate are limited in stable times when the environment is simple. Optimum conditions for adaptive behavior to changes in the environment exist when uncertainty and unpredictably are present and provide a sufficient amount of information for managers to
process—too much or too little information nullify the adoption of innovation. Drawing on a study of total innovation types (a combination of service, organizational and ancillary) Walker, Berry, and Avellaneda (2015) find that political dynamism is more damaging to innovative capacity than social and economic dynamism. Andrews et al. (2008) also note how confrontational oversight bodies have a harmful effect on innovation-oriented strategic stances.

Leadership

Proposition 6:  
PSO leaders with a longer tenure are more likely to innovate in strategy focus.

The longevity of organizational leaders is associated with the adoption of innovations in strategy focus. Innovations at the strategy mechanism level are typically more complex because they involve more political processes, multiple stakeholders and external actors. The adoption of more complex innovations requires a skill set that can create a climate for innovation, lay the foundations for the adoption of other innovation types and permit successful implementation (Damanpour and Schneider 2009). This requires assurance that the facilitator of adoption and implementation is aligned with innovation so that resistance can be overcome. Longstanding leaders accumulate a range of knowledge about the ways in which an organization operates. They understand in detail how tasks are undertaken, processes and tensions are managed, and outcomes are achieved (Damanpour and Schneider 2006). These leaders possess this knowledge and expertise because they have been involved in the implementation of a range of projects, are well established and networked among the stakeholders, are familiar with the central issues in their organization pertaining to the innovation process and have developed strategies to resolve
problems. This knowledge and skill is particularly suited to the implementation phase. Leaders with a longer tenure will also have legitimacy because their values and intentions are established and known by the organization’s members (Kimberly and Evanisko 1981)

**Implications for management**

The typology has important managerial implications for understanding how administrators can think more systematically about PSI. A holistic view offers different normative implications for the strategies that organizations may use to achieve superior public value and citizen satisfaction. For example, instead of emphasizing only service innovation and functional perspective, the holistic view shifts the focus from a private sector orientation to public value, from functional management to a systematic view or stakeholder perspective, and from a provider perspective to a user perspective. It can also assist with profiling and aligning, measuring and benchmarking, and visioning opportunity.

The innovation framework can help public organizations not only prioritize innovation opportunities but also discover new opportunities to innovate. A PSO should leverage its distinctive capabilities or identify critical new capabilities. PSO can assess the types of innovation that may have the most meaningful effect on public value and prioritize innovation dimensions based on their capabilities. With the innovation typology, administrators can construct a strategic approach that keeps citizen concerns at the forefront.

**Conclusion**

In this article, we have developed a classification of PSI, differentiating it from innovation in private firms and from internally orientated typologies. By viewing public value as a defining feature, we have proposed that innovation be classified by different mechanisms to create public

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3 The relationship between managers’ tenure and innovation is, however, not likely to be linear. At a point a leader will have been resident too long, becoming overly familiar with existing organizational conditions, routines and practices, and thus not willing to challenge the status quo or bring about innovation and change.
value or innovation focus. We combine the new management literature on the collaboration and open innovation trend that is expanding research from an internal focus to an external perspective to classify innovation by its location. By integrating the literature in both business and public administration, particularly with regard to their innovation typologies, we have built a new typology to classify innovation into two dimensions to overcome the limitations of the existing ones. The PSI typology can be used for a range of empirical studies. These would include further validation to ensure that the framework captures the variety of PSI. Studies can then examine the key questions of innovation adoption, diffusion, innovative characteristics of organizations, the management of innovation and its consequences. As a holistic framework for defining, measuring and diagnosing PSO’s we believe it will have important policy, practice and research implications.
REFERENCES


<table>
<thead>
<tr>
<th>Origin</th>
<th>Orientation</th>
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</tr>
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<tbody>
<tr>
<td>Private sector</td>
<td>Public service</td>
<td>Internal</td>
</tr>
<tr>
<td>Moore (1995)</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>Walker (2006)</td>
<td>Yes</td>
<td>Partial</td>
</tr>
<tr>
<td>Bloch and Bugge (2013)</td>
<td>Yes</td>
<td>Partial</td>
</tr>
<tr>
<td>Wu, Ma and Yang (2013)</td>
<td>Yes</td>
<td>Partial</td>
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TABLE 2
A Typology of Public Service Innovation

<table>
<thead>
<tr>
<th>Innovation focus</th>
<th>Intra-organizational</th>
<th>Inter-organizational</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strategy</td>
<td>Mission innovation</td>
<td>Policy innovation</td>
</tr>
<tr>
<td>Capacity</td>
<td>Management innovation</td>
<td>Partnership innovation</td>
</tr>
<tr>
<td>Operation</td>
<td>Service innovation</td>
<td>Citizen innovation</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Innovation</th>
<th>Definition</th>
<th>Example</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mission innovation</td>
<td>The introduction of a new worldview, mission or purpose for the organization as a whole.</td>
<td>The Finnish education system in which equality is prioritized over performance constitutes a new worldview.</td>
</tr>
<tr>
<td>Policy innovation</td>
<td>The introduction to the stakeholders of new benefits and obligations for the organization as a whole.</td>
<td>A municipality that improves safety through making cell phone usage while operating a vehicle illegal is introducing new obligations into the ecosystem.</td>
</tr>
<tr>
<td>Management Innovation</td>
<td>The introduction of a new management practice, process, structure, or technique to improve the organization’s ability to further organizational goals.</td>
<td>The adoption of sustainable engineering practices in clean water initiatives.</td>
</tr>
<tr>
<td>Partner Innovation</td>
<td>The establishment of new partnerships to improve the organization’s ability to further organizational goals.</td>
<td>State adoption services utilizing the infrastructures and capabilities of local community groups, such as non-profits and churches.</td>
</tr>
<tr>
<td>Service Innovation</td>
<td>The introduction and delivery of new services to achieve organizational goals.</td>
<td>A municipality that introduces free WiFi to promote citizens’ use of public spaces.</td>
</tr>
<tr>
<td>Citizen Innovation</td>
<td>The establishment of new platforms to facilitate citizen collaboration to achieve organizational goals.</td>
<td>When police build a neighborhood watch program, they are providing a platform that both fosters transparency and increases their operational value by leveraging the abilities of residents.</td>
</tr>
<tr>
<td></td>
<td>Mission</td>
<td>Policy</td>
</tr>
<tr>
<td>----------------------</td>
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<td>--------</td>
</tr>
<tr>
<td>Moore (1995)</td>
<td>Strategic</td>
<td>-</td>
</tr>
<tr>
<td>Walker (2006)</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Bloch and Bugge (2013)</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Wu, Ma and Yang (2013)</td>
<td>-</td>
<td>Governance</td>
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</table>
## Online Supplementary Material: Definitions of innovation types in the PSI typologies

### Table A1: Bloch and Bugge’s Public Sector Innovation Typology

<table>
<thead>
<tr>
<th>Innovation</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Product</td>
<td>The introduction of services or goods that are new or significantly improved compared to existing services or goods in your organization</td>
</tr>
<tr>
<td>Process</td>
<td>The implementation of a method for the production and provision of services and goods, that is new or significantly improved compared to the existing processes in your organization</td>
</tr>
<tr>
<td>Organization</td>
<td>The implementation of a new method for organizing or managing work that differs significantly from the existing methods in your organization</td>
</tr>
<tr>
<td>Communication</td>
<td>The implementation of a new method of promoting the organization or its services and goods, or new methods to influence the behavior of individuals or others</td>
</tr>
</tbody>
</table>

Source: Bloch and Bugge 2013: 143

### Table A2: Moore’s Public Sector Innovation Typology

<table>
<thead>
<tr>
<th>Innovation</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Policy or Program</td>
<td>These innovations define new ways of using an organization’s resources to accomplish its overall mission</td>
</tr>
<tr>
<td>Administrative</td>
<td>These innovations involve new methods for organizing, accounting for, or controlling the organization’s operations</td>
</tr>
<tr>
<td>Strategic</td>
<td>These innovations seek to redefine the basic purposes or core technologies of an organization</td>
</tr>
</tbody>
</table>

Source: Moore 1995: 233-234

### Table A3: Walker’s Public Sector Innovation Typology

<table>
<thead>
<tr>
<th>Innovation</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Service</td>
<td>New services offered by public organizations to meet an external user or market need</td>
</tr>
<tr>
<td>Organizational process</td>
<td>Involves management and organization that changes relationships among organizational members and affects rules, roles, procedures and structures, communication and exchange among organizational members and between the environment and organizational members. “How” service is rendered. Marketization innovations involve modifying the organization’s operating processes and systems to increase the efficiency or effectiveness of producing and delivering its services to users</td>
</tr>
</tbody>
</table>
Organization innovation is innovation in structure, strategy, and administrative process.

Technological innovation is innovation associated with changes in physical equipment, techniques, organizational systems and communication.

Ancillary innovation reflects the shift to partnership and networking in the delivery of modern public services.


Table A4: Windrum’s Public Sector Innovation Typology

<table>
<thead>
<tr>
<th>Innovation</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Service</td>
<td>The introduction of a new service product or an improvement in the quality of an existing service product</td>
</tr>
<tr>
<td>Service delivery</td>
<td>New or altered ways of delivering to clients, or otherwise interacting with them for the purpose of supplying specific public services</td>
</tr>
<tr>
<td>Administrative and organizational</td>
<td>The introduction of new organizational structures and routines through which front office staff produces services in a particular way and/or back office staff supports front office services</td>
</tr>
<tr>
<td>Conceptual</td>
<td>The development of new world views that challenge assumptions that underpin existing service products, processes and organizational forms</td>
</tr>
<tr>
<td>Policy</td>
<td>The introduction of new thought or behavioral intentions associated with policy belief systems</td>
</tr>
<tr>
<td>Systemic</td>
<td>New or improved ways of interacting with other organizations and knowledge bases</td>
</tr>
</tbody>
</table>

Source: Windrum 2008:8-10

Table A5: Wu, Ma and Yang Public Sector Innovation Typology

<table>
<thead>
<tr>
<th>Innovation</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Service</td>
<td>The supply of new services to new users, the delivery of existing services to new users or the supply of new services to existing users, which represent three types of service innovation: total, expansionary and evolutionary, respectively</td>
</tr>
<tr>
<td>Technological</td>
<td>A change in service delivery technologies or arrangements</td>
</tr>
<tr>
<td>Management</td>
<td>The restructuring of organizational structures and management processes and practices</td>
</tr>
<tr>
<td>Collaborative</td>
<td>Boundary-spanning activities in the process of service delivery and management (for example, alliances, partnerships, collaborations and networking).</td>
</tr>
<tr>
<td>Governance</td>
<td>New approaches and practices that aim to manage democratic institutions, trigger citizen participation and fight corruption</td>
</tr>
</tbody>
</table>

Source: Wu, Ma and Yang 2013: 4-6