Defining, Distinguishing and Studying Public Sector Innovation and Change

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ABSTRACT

This paper explores distinctions that frame the study of public sector innovation and change—theories, definitions of and distinctions between dissemination/trailblazing and innovation/change. The paper identifies a number of ways in which innovation has been studied and explores two in-depth. The first approach grew from the economic domain, based on innovation in individual businesses and focuses on dissemination of innovation and whether organizations have adopted a list of innovations previously adopted by other organizations. Schumpeter (1942) developed this definition; the *Oslo Manual* (OECD/Eurostat, 2018) uses it, defined in terms of what is delivered. The second approach focuses on timing of adoption and early adopters in a population or community of innovations, organizations or communities of practice. It is based on Rogers' five types of adopters during dissemination and permits identification of innovativeness within and across governments.

Key words: Innovation, theories of innovation, definitions of innovation, dissemination of innovation, trailblazing of innovation, organizational change.

Introduction

Much of the literature on public innovation does not identify the theories it uses or define innovation, as pointed out for service innovations by Osborne (1998) and generally by Bekkers, Tummers, Stuijfzand and Voorberg (2013) and Glor (2015: 28-29). To avoid definitions is not acceptable scholarly work as authors use the term innovation different ways.

Theories of Innovation

Innovations have been considered, based on theories. Some examples are identified in Table 1.

Definitions

Three main types of definitions of public sector innovation have been used: The first was originally an economic definition. It uses the definition provided in the 2018 *Oslo Manual* (OECD/Eurostat, 2018: 20):

An innovation is a new or improved product or process (or combination thereof) that differs significantly from the unit's previous products or processes and that has been made available to potential users (product) or brought into use by the unit (process).

Table 1: Examples of Use of Theories in Study of Innovation

Theoretical Approach	Type of Innovation Studied	Authors Who Used the Type
Functionalist Non-functionalist	*Functionalist:* Institutional economics (principal agent, property rights), utility maximization, rational choice, competition Logic of efficiency, contingency theory, Efficiency, good environmental fit, results *Non-functionalist:* Social constructivist or interpretive/ hermeneutic -institutional path dependency (Pierson 2000) ; considerations of legitimacy, symbolism, fashion (e.g. Christensen & Laegreid 1998; Premfors 1998; Guyomarch 1999). Logic of appropriateness	Pollitt, 2002: 481-482
Voluntarism/determinism		Glor, 2002
Types of innovation delivered	Services Many types	Osborne, 1998; OECD/Eurostat, 2018; Buchheim, Krieger & Arndt, 2020
Stages of the innovation implementation process	e.g. approval, implementation, evaluation	Rogers, 1995 Glor, 1998
Context	e.g. large/small organization, good/poor economy, ideology	Glor, 2021 II
Timing: earliness of adoption	e.g. first adoptions early adoptions	Collier & Messick, 1975; Glor, 1997
Stages[1] of innovation adoption First, second or third adoption of an innovation	e.g. innovation/invention, first adoption, early adoption early majority, late majority, laggard adoption of innovation Trailblazing	Rogers, 1995; Glor, 1998 Glor, 1997, 1998, 2002
Innovation dissemination/ diffusion: probability of adoption	All types Whether a government has adopted a specific innovation	Berry and Berry, 2007

The *Oslo Manual* definition is based on what is delivered and whether it has been adopted. It does not address order of adoption, what the innovative aspects are or how innovative

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[1] Rogers (1995) and Glor (1998) are mentioned twice here regarding stages. The stages referred to are different: process (implementation) stages, adoption stages. The two types are sometimes confused in the literature.

they are. In its 2018 edition, the *Oslo Manual* expanded the coverage of its definition to include all kinds of innovation.

A second kind of definition is also subjective but instead of focusing on the product, focuses on the perception of newness. It considers dissemination of innovation and defines innovation as anything perceived as new by the adopter or its organization, no matter its size or when it was adopted:

> An innovation is an idea, practice, or object that is perceived as new by an individual or other unit of adoption (Rogers, 1983: 11).

Unlike earlier authors, who identified the rank of adoption (e.g. Poel, 1976), Rogers suggested a subjective definition:

> It matters little whether the idea is "objectively" new as measured by the lapse of time since its first use or discovery. The perceived newness of the idea for the individual determines his or her reaction to it. If the idea seems new to the individual, it is an innovation (Rogers, 1983:11).

Rogers and Kim (1985) more concisely defined innovation as implementation of a new idea as perceived by the adopter. Rogers (1995) also defined innovation as anything perceived as new by the adopter. The dissemination literature accepts this approach and does not require innovation to be objectively new.

These subjective definitions avoid the challenges inherent in defining innovation objectively and of identifying the order in which innovations have been adopted within or outside governments. Innovation definitions consistently indicate the innovation has been implemented, starting with Schumpeter. These are the commonly used definitions of innovation.

A third kind of definition also considers innovation as implemented but as more strictly new. One definition of public sector innovation of this type is the conception and implementation of new ideas, never done this way before in its organization, involving risk and improvement (Glor, 1997: 4). This emphasis on newness emphasizes early adoption and thus time, based on Rogers' five orders of adoption of innovation. Its research must identify the order of adoption of a specific innovation and by whom. Innovativeness both within and across governments can thus be studied. Rogers' stages of innovation adoption/dissemination are (1) "innovation" (invention), (2) early adoption, (3) early majority, (4) late majority, and (5) laggard adoption of innovation in a system. He thus does recognize the order and time of adoption. Rogers suggests the time periods for these stages are different for each innovation but must be determined for each adoption.

These different definitions of innovation permit authors to make two important additional distinctions, between: trailblazing and dissemination.

Dissemination/Trailblazing

Dissemination and trailblazing (early adoption) use different definitions of innovation and focus on different phenomena. Dissemination and trailblazing therefore need to be clearly distinguished: Both can be measured. Dissemination is typically measured in terms of whether (yes/no) a work unit/business/government/ministry has adopted an innovation on a list identified by the researcher; e.g., county associations use this approach in their surveys of municipal innovations.

The trailblazing approach emphasizes newness and therefore innovativeness and tracks the order in which governments have adopted an innovation in their government/population/ community (Rogers, 1995 used the term system). Some of my work uses this approach, with a focus on early adoptions, which I recently began calling trailblazing. Trailblazing is the first three adoptions in a population/community. New is typically identified by the implementers or, if there is legislation, by documents approved/being approved.

In terms of classification, innovation communities and populations are at a logically higher level than governments and organizations. They are the groups outside the government with which governments and public servants work and compare themselves. A government's *population* is the group of governments with similar mandates, e.g. all the governments like the one being studied, such as all USA states, all federal governments, European/North American governments, African governments. A *government's community* is the group of governments to which the government compares itself and/or with which it works on the issue; e.g., Saskatchewan's community for its five income security innovations, 1971-82 was the Government of Canada and progressive Canadian provincial governments and progressive American federal/ state governments. An *innovation's community* is the groups to which a government relates and compares itself regarding the innovation under consideration. A *policy innovation community* can be political, electoral or organizational supporters, elected and appointed officials and portions of the public needing or promoting the innovation. A community-of-practice, e.g. could be a professional association such as the International Institute of Administrative Sciences (Glor, 2021 II, Glossary). Study of trailblazing is, therefore, an examination of government innovativeness within a broader context than dissemination uses. In this approach, innovation is objectively (ordinally) new.

Dissemination. In the dissemination/diffusion/all adoptions approach, the OECD work on the business sector beginning in the 1950s defined innovation as something new to a business or its internal organizations. In 2018 they expanded their definition to within an organization in the non-profit or public sector or in a household, and as including policy, as perceived by the person responding to the OECD survey. An innovation new to a department (ministry) may be unique to the government, as departments have different policy roles. If the innovation is administrative, it is more likely to be adopted government-wide and to be unique to the government rather than the organization. Organizations are administrative units delivering policies/programs/administrative processes. This definition usually has a subjective element as it is based on a manager's (usually) or an employee's perception but sometimes research is conducted on the innovation. Public servants implementing innovations are, nonetheless, likely

to be well informed about the innovation. Sometimes the people involved in seeking approval for/implementing an innovation have made an effort to determine whether anyone else has implemented this or a similar innovation. This is difficult to research, results may be spotty and it is typically not queried in surveys (exception Bloch and Bugge, 2013). There are also exceptions; e.g., Colvin (2006), Glor (1997).

The dissemination of innovation definition was developed for business by Schumpeter (1942) and is used in all of the OECD's Oslo manuals (with a slight change in 2018) and its self-administered Innovation Survey of countries. It was developed to assess economic innovations. In the 2018 manual, the OECD claimed to have expanded the definition to the non-profit and public sectors, households and policy (no guidance manual has yet been produced). It studies what is delivered (OECD/Eurostat, 2018). Osborne (1998) also emphasizes newness, of what is delivered but only of one kind of public sector innovation—services to recipients: His "total innovation" is innovations new to the innovating organization and offering a new service to a new group. A new service is a policy innovation while new approaches to service may be process innovations. Like the Oslo Manual, he does not attempt to distinguish the order in which organizations or governments adopted innovations. In all its versions, the focus of study of dissemination has been on whether a particular innovation has been adopted by a work unit, not timing or newness of adoption. With this approach, the distinctions among innovation, change, policy transfer and reform are more difficult to determine. Very little policy literature has addressed innovation, it usually uses the terms change and policy transfer.

In much dissemination (diffusion, all adoptions) of innovation literature, authors merge all stages of adoption and use the term innovation to refer to adoption by an organization/work unit at any of Rogers' five adoption stages. This is the approach of many innovation surveys. Neither the responder nor the researcher researches the history of the innovation's dissemination nor its history within its population/community. Authors also do not need, with this approach, to argue innovativeness, only adoption. As with Rogers, the venue is limited to the organization and the assessment is based on the responders' perceptions. While use of perceptions has been criticized scholars as too subjective, in the end all surveys are based on perceptions. It would be interesting to have data on the innovativeness of the adoption (the order in which the innovation was adopted in its population/community) but usually dissemination literature does not offer this information. The focus has been whether an innovation has been adopted. Surveys of dissemination thereby imply that an adopter should be adopting an innovation, if it has not, and can serve an educational but also a political function of encouraging adoption, and can even assume an ideological perspective through its choice of innovations to survey. Many innovation surveys have basically surveyed adoption of new public management, which was largely associated with adoption of neoliberalism and government restraint. Scholars should take care to avoid these kinds of ideological biases or should at least examine and acknowledge them.

Trailblazing. Rogers (1995: 263-266) made this (often earlier) approach possible by distinguishing, within dissemination, early and late adopters, in five stages that order innovativeness. He did not give them objective (e.g., time-period) definitions but rather identified the stages as specific to each innovation. To do this type of analysis, authors must have, and often must collect, data on the order in which an innovation was adopted by the work

units, divisions, directorates, governments or other organizations that adopted it. Together, they define the order of adoption across a population/community. In the USA such data is sometimes readily available (e.g., USGM, 2020) but often not in other countries, so it must be collected. Often researchers must collect original data, a time-consuming undertaking.

Several early authors emphasized early adoptions, e.g. Mohr, 1969; Gray, 1973; Poel, 1976. Glor (1997, 2002) defined innovation as something new and an improvement adopted for the first, second or third time in an innovation's community or population. These could be Rogers' first two stages (invention, early adoption). The focus is the earliness of adoption and its challenges. There are a limited number of these kinds of studies because they require considerable original research that cannot be certain to have found all the relevant cases. Moreover, it requires research on a population/community rather than one work unit. Such research relies considerably on political and public (civil) service informants, the approvers and implementers and the research they have done but can be checked to some extent through government documents like budgets (although program budgeting has obscured this information), registries and the scholarly literature.

Recently Glor has called the first, second and third adoptions in a population or community "trailblazing" (e.g., Glor, 2021 I-VI). Innovation communities and populations are at a logically higher level than work units, divisions, directorates, branches and sometimes governments. Populations and communities are aggregations and networks outside the adopting government with which elected officials and public servants work and compare themselves. A population could be all the governments like the one being studied. "Like" could mean, e.g., all federal governments, a geographical group of governments (e.g., European/North American/Asian/ African governments), all USA states and all former Soviet states. A community could be, e.g., a community of practice or a professional association (e,g., International Institute of Administrative Sciences, IIAS), members of a large organization (e.g. Association of Southeast Asian Nations, ASEAN). This trailblazing approach, therefore, examines government and group innovativeness in a broad context.

For all types of studies, even for case studies of innovation (as opposed to population studies), authors should research where else this has been adopted and compare the case study with other versions of the innovation. Authors should also try to identify who the trailblazers were. They should likewise explore how the innovation has evolved and why since it was trailblazed. Quantitative data should be offered or a thorough postpositivist analysis. Authors should also identify whether the innovation is a policy (program) or process. If the innovation is a policy, the author should identify and explore a policy methodology (e.g., multi-stream analysis). If it is a process, it should be described and placed in its context. With the trailblazing approach, innovation is not change, policy transfer, reform or the adoption of changes already widely adopted within the government or its population/community.

Combined Approaches. Some authors have combined the dissemination and trailblazing approaches. Bloch and Bugge (2013: 16), who studied dissemination of innovation distinguished two degrees of innovation novelty: (1) first to develop and introduce the innovation; (2) an

innovation already introduced by others, but new to the organization (called dissemination here). Authors sometimes identified first adoption in a dissemination study (e.g., Colvin, 2006; Bloch and Bugge, 2013). Glor (1997; 2002; 2017a, b; 2019) also identified the two kinds of novelty, (1) first, second and third time an innovation was adopted in a government's community or population and as an improvement (1997: 4), and (2) dissemination (fourth and all subsequent adoptions). While the *Oslo Manual 2018* combines the private, non-profit and public sectors in its current definition of innovation, Bloch and Bugge said: "there are important differences between the public and the private sector that should be reflected in a measurement framework, there is also considerable common ground that can be drawn upon" (2013: 133).

So far, this paper has discussed dissemination and stages approaches to study of public sector innovation. In the next, final section it will discuss differences between innovation and three other types of change.

Innovation/Change

Innovation and change can be unsettling for public servants. They need to be informed, involved and considered in the implementation of both. Some authors have offered some strategies for coping (Officer, 2021).

Change is referred to several ways in the literature—e.g., as change/policy transfer/reform. These terms will be referenced here, when discussed generically, as "change". Innovation and change need to be distinguished, if possible. All four topics are, however, often referred to similarly in the literature. The distinction between innovation and change was discussed in the private and public sector Innovation Network. Several of the participants in the network, who were mostly practitioners and usually working in the private sector, suggested there wasn't much difference (Innovation Network, 1999).

The emphasis on dissemination in the literature since about 1990 (Berry and Berry, 2007)[2] has contributed to this lack of a distinction between innovation and change. So have the dominant neoliberal ideology and New Public Management (NPM) with their emphasis on cutting back and terminating government programs rather than creating and adopting new programs. There has been less trailblazing of policies to study during this period.

Like Rogers' (1995) stages of the innovation process, the policy cycle has been described as having five stages (agenda-setting, policy formulation, decision-making, policy implementation, policy evaluation) (Howlett and Cashore, 2020: 16). These stages are much the same.

Bauer and Knill (2014: 28) suggested policy change has been studied in terms of degrees of change: radical versus incremental, pathbreaking versus path-dependent, self-reinforcing

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[2] Berry and Berry (2007: 233) describe these approaches as having two different dependent variables— earliness of adoption and probability of adoption.

versus reactive sequences. They added direction of policy change (dismantling) of policy arrangements to the list. These same topics have also been studied in relation to public sector innovation and suggests again that authors are not distinguishing change from innovation.

This lack of distinctions between change and innovation could be for several reasons, such as because: they are actually too similar to distinguish; authors do not want to deal with the definitional issues; they want to discuss the phenomena generically, which might allow for broader application; they do not have the resources to study either in detail; they are directing their work to a field that discusses change a specific way, e.g., the policy field discusses policy transfer a fair bit but innovation little (exceptions: Berry and Berry, 2007; Howlett, 2013).

Wolman and Page (2002: 477) argued that the burgeoning literature on policy transfer suffered from the lack of an analytical framework that would facilitate understanding and thus theory–building. They proposed that policy transfer should be conceptualized as occurring through a communications and information framework and that it focus on information networks.

Evans (2009: 244) defined policy transfer analysis as:

… a theory of policy development that seeks to make sense of a process or set of processes in which knowledge about institutions, policies or delivery systems at one sector or level of governance is used in the development of institutions, policies or delivery systems at another sector or level of governance.

He did not use the term dissemination but distinguished policy transfer from diffusion. He also distinguished other kinds of change:

The contemporary study of policy transfer originates from policy diffusion studies, a sub-set of the comparative politics literature. Research in this area focused on identifying trends in timing, geography and resource similarities in the diffusion of innovations between countries and, in the United States, between states in the federation (see Walker 1969). However, these studies revealed little about the process of transfer apart from its identification of mechanisms of diffusion and focused exclusively on the study of policy transfer between developed countries (Evans, 2009: 244).

Evans therefore suggests that policy transfer has inherited a specific piece of the policy diffusion and innovation literature, the process of transfer.

Sabatier defined policy change:

In its simplest terms … policy change is best seen as fluctuations in the dominant belief systems within a given policy area/subsystem over time. While policy analysis and learning can strongly affect secondary aspects of such belief systems, fundamental changes in subsystem policy are usually the result of alterations in noncognitive, systemic parameters (Sabatier, 1987: 650).

"Dominant belief systems" sound very much like ideology, which has also been identified as an antecedent of policy innovation (Glor, 2021 VI).

The main difference between innovation and change is that innovation is defined as having a new aspect to it; change does not define itself that way. Rather, studies of change typically focus on what changed. While change has a new aspect to it and it is usually new for the organization adopting it, this is not typically the focus. I say usually because sometimes change swings back and forth—e.g., centralization and decentralization—nonetheless, in such cases, it is sometimes combined with a new aspect. The distinction between innovation and change can therefore be seen as being rather similar to the one made between innovation and dissemination.

Dissemination of innovation and policy/process change are therefore similar phenomena. Different terms are used because authors focus on different things when using the terms: study of dissemination of innovation focuses on whether an organization has adopted an innovation; study of change focuses on what has changed, the program/process, as does trailblazing, though at a higher and a comparative level.

This conclusion that the literature uses the terms innovation and change similarly, then, forces a discussion of case studies of change and innovation. Neither is required to study only one case. The main difference is that study of change almost always discusses the context and consequences of change while case studies of innovation often do not. Case studies of change often focus on the process of change. Another difference is that an innovation is typically studied as a stand-alone while change is mostly studied within a public policy or administration context.

Conclusion

The underlying question in this paper has been: *Is there a point when innovation becomes change?* The answer to this question depends on the definition of innovation being used. The way dissemination of innovation is currently studied, there is no point when innovation becomes change and they are essentially the same. In dissemination studies, something is defined as an innovation and is considered an innovation forever. Innovation is considered a characteristic of the change. Innovation is thus considered timeless, not as a time-related phenomenon. Yet, there should be a distinction. When innovation and change are considered in terms of newness and Rogers' five sequential and time-related stages (newness) of innovation adoption are considered, there can be a point in time when innovation becomes change. For instance, invention (Rogers considered this innovation) and early adoption could be considered the stages of adoption of innovation while early majority, late majority and laggard adoption could be considered the stages of adoption of change. I am not aware of any studies that have explored this issue but it should be addressed. The timeless dissemination approach cannot tackle whether innovation eventually becomes change but the stages of innovation dissemination can.

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