Open Innovation in the Public Sector:  
Review and Integration of the Management and Public Administration Literatures

Research in Progress

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ABSTRACT

This paper develops linkages and bilateral influences between the “open innovation” paradigm and research in Public Administration. To this end, the article aims to investigate the different areas of interest of the Public Administration literature to understand how scholars in the field have interpreted open innovation, further identifying the key characteristics of open innovation adopted in the public sector, with a specific focus on e-government, digital governance, and their impact on public management. We perform a literature review from 1995 to 2016, connecting and integrating the Management and Public Administration literatures on open innovation, currently mostly developed in silos, considering topics such as inclusive management, organizational control mechanisms, information use and production, and the dynamics of value creation and production for open innovation in the public sector. We anticipate that the results will help draw new avenues of research for academic researchers as well as tracks of useful actions for practitioners in the public sector.

Keywords: Open innovation; Strategy, Public Management; e-Government; Digital Governance
Open Innovation in the Public Sector: Review and Integration of Management and Public Administration Literature

This article investigates the linkages and influences between the “open innovation” (OI) paradigm and Public Administration (PA) research (Hood, 1990; Lane, 2000; Prentice, 1984; White & Adams, 1994), with a specific focus on e-government, digital governance, and their impact on public management (Dunleavy, Margetts, Simon, & Tinkler, 2006). We argue that the topic is relevant for understanding the important but underinvestigated nature of innovations transforming government organizations (Feller, Finnegan, & Nilsson, 2011), particularly for e-government, digital governance and the recent attention of public managers to open government (Mergel & Desouza, 2013). These innovations may be a way of enforcing co-production and social innovation with regard to policy making and the social value of open government ICT-enabled initiatives (Misuraca & Viscusi, 2015; Viscusi, Castelli, & Batini, 2014). In what follows, we discuss the background and motivations for the proposal, the research method adopted, and insights on the preliminary results.

Background and motivations

Henry Chesbrough coined the term “open innovation” in 2003 when he published the book Open Innovation: The new imperative for creating and profiting from technology (Chesbrough, 2003). As pointed out by Chesbrough & Bogers (2014), since then, an entire research field has emerged in management, which includes complementary perspectives relying on the work of Eric von Hippel (2005; 1988), the latter focusing mainly on “user innovation” but also covering to some degree “open source innovation” (von Hippel & Von Krogh, 2003), “open distributed innovation” (von Hippel, 2005) and “open collaborative innovation” (Baldwin & von Hippel, 2011). These perspectives emphasize low-cost or free production of public, non-rivalrous, non-
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excludable goods, and thus may actually be considered a component of the definition proposed by Chesbrough & Bogers (2014) to unify the field, which states: “Open innovation is a distributed innovation process based on purposively managed knowledge flows across organizational boundaries, using pecuniary and non-pecuniary mechanisms in line with each organization’s business model” (p. 27). In particular, a difference between von Hippel (1988) perspective and open innovation as introduced by Chesbrough is that the latter goes beyond the externalization of research & development (Chesbrough, Vanhaverbeke, & West, 2006, p. 82). Also, the following points of differentiation are worth noting for open innovation as defined by Chesbrough with regard to other innovation theories: i) equal importance of external and internal knowledge; ii) the key role of business models in converting R&D into business value; iii) the relevance of Intellectual Property Management (IP); iv) the presence of innovation intermediaries; v) the purposive outbound flows of knowledge and technology (Chesbrough et al., 2006, p. 11). Also, considering open innovation in Public Administration research, the adoption of business models is specifically controversial when uncritically translated to this domain, due the firm based origin of the concept of business model (Massa, Tucci, & Afuah, 2017; Zott, Amit, & Massa, 2011) and the profit orientation of value proposition, not automatically suitable to be applied to public organizations, first considering the difference between public and private sector (Lane, 2000; Prentice, 1984), and actually not all necessarily following, e.g., a new public management perspective (Dunleavy et al., 2006).

Taking the above discussion into account, it is worth noting that public sector and societal issues have only been relatively recently introduced as potential research areas of interest for studying open innovation (Chesbrough & Bogers, 2014), while in the last years, the research on open data and open government have received growing attention and interest by practitioners and scholars
interested in e-government (Lee & Kwak, 2012; Misuraca & Viscusi, 2014; Orszag, 2009; Zuiderwijk & Janssen, 2014) and public sector innovation through information and communication technologies (Cordella & Bonina, 2012).

As pointed out by Lane (2000, pp. vii–viii) the public sector is a set of institutions, which coordinate the interests of different groups that solicit in various ways for public activities; thus, the concept of public sector includes both the activities carried out by public institutions as well as how decisions are made and implemented by them (Lane, 2000, p. vii). These issues are actually the subject studied in Public Administration research as an applied social science (Lane, 2000; Prentice, 1984). Notwithstanding the growing interest in the role of information and communication technology (ICT) in government (Danziger & Andersen, 2002), the attention to the concept of e-government at the end of the 1990s (M J Moon, 2002), and subsequent development in practice as well as a research field on its own (Grönlund & Horan, n.d.; Yildiz, 2007), the position of e-government in the Public Administration literature as well as their relationship are still to fairly arm’s length, as argued by Bannister & Grönlund (2017).

Furthermore, ICT and e-government articles are often focused on different values with regard to the three approaches to Public Administration (managerial, political, and legal) identified by Moon et al. (2014). Also, people having a background in information systems, computer science or engineering entered in the field of e-government often with limited knowledge of Public Administration research and practice, thus often moving the focus on the impact on technology on services rather on issues such as power structures, reforms, etc. (Bannister & Grönlund, 2017). Accordingly, although research on open government / open data emerged during the development and (ongoing) consolidation of open innovation research in management, the link between the fields of Public Administration and Management research as well as the degree of
influence of the latter on the former have been not well developed, to our knowledge, with the exception of preliminary work by Assar, Boughzala, & Isckia (2011) and Feller et al. (2011), the former explicitly questioning: “How Web 2.0 and OI can be used to change the current model of e-government towards a more social, open and participatory model?” (Assar et al., 2011, p. 2). Hence, we argue that an understanding of the kind of open innovation perspective adopted, if any, in initiatives related to, for example, open government/open data is also relevant for clarifying the role attributed to citizen participation and engagement. For example, citizen engagement’s role in policy making and the phenomenon of policy informatics is emerging as a topic of great interest (Desai & Kim, 2015; Ferro, Loukis, Charalabidis, & Osella, 2013; Johnston, 2015; Koussouris, Lampathaki, Kokkinakos, Askounis, & Misuraca, 2015). Policy informatics faces the same questions posed, for example, for crowdsourcing in the private sector: When may it be better for solving problems than traditional alternatives such as internal solutions or designated contracting (Afuah & Tucci, 2012)? Indeed, depending on the perspective adopted with regard to open innovation, citizens can be considered (1) active in purposively managed knowledge flows across public organizational boundaries (with bidirectional and co-production effects, for example, on decision-making and service design or delivery), or (2) merely support for deliberation and policy making (with consequently little pervasiveness and influence with regard to knowledge flows across public organizational boundaries).

To this end, we have carried out a preliminary analysis of the e-government literature to understand how open innovation has been interpreted by e-government scholars to identify the key characteristics of open innovation adopted in the public sector, especially with regard to the current focus on open government (Viscusi, G., Poulin, D., & Tucci, C., 2015). The two phenomena have both similar and divergent facets (Traunmüller, 2014) as well as different digital
governance attitudes (G. Misuraca & Viscusi, 2014), where e-Government “attitudes” have a limited citizen/service perspective with regard to open government “attitudes”, due to the former interest in administrative activities performance rather than opening them to include citizens in service and government actions, policies, and politics. However different, both e-government and open government are studied primarily and specifically within the e-government research field, while in areas such as political science, policy studies or information systems and public administration research are topics among others, but not the core ones. The insights from this preliminary analysis of the literature has shown that the term “open innovation” has been adopted in a loose way with regard to the main perspectives from the field of management science, i.e., a lack of awareness of the origins of the terminology or the main characteristics of it. In particular, according to the results discussed in Viscusi, G., Poulin, D., & Tucci, C. (2015), “Open innovation” appears to be the term most used among the papers for the following journals. As for the Government Information Quarterly (GIQ) and Electronic Journal of e-Government, the term results from 1989 and 2012 respectively, whereas for Information Polity it appears first in 2008. Chesbrough is mentioned only once in GIQ in 2012. Whereas von Hippel appears twice in GIQ (1989 and 2012) and only once in a paper published in 2007 in the Electronic Journal of e-Government (three times total). Chesbrough appeared together with Open innovation in a 2014 paper published in GIQ and in a paper published in 2012 by the Electronic Journal of e-Government (two times total). As for von Hippel, the name appears together with Open innovation in a paper published in Information Polity in 2012 and in a paper appearing in 2014 in the Electronic Journal of e-Government (two times total). Finally the three terms appeared together in a paper published in 2012 in the Electronic Journal of e-Government. Thus in 60% of the occurrences of the terms, open innovation has been used without a specific reference to the
two main perspectives that are discussed in management. Finally, it is worth noting that “von Hippel” appears as main and/or only source for open innovation by contributions focusing on collaborative approaches to public sector innovation (e.g., Szkuta, Pizzicannella, & Osimo, 2014) and participatory politics (e.g., Loader & Mercea, 2011).

**Method**

Taking the above issues into account, and to encourage a better understanding of the linkages between concepts and perspectives from the management literature as well as how they play out in public organizations (Feldman, 2005, p. 4), it is necessary to go into greater depth and further consider the different areas of Public Administration research. We therefore conduct a conventional or traditional review of literature on the subject (Boell & Cecez-Kecmanovic, 2015; Brocke et al., 2015), extending the work presented in Viscusi, G., Poulin, D., & Tucci, C. (2015). We opted for a traditional review, aiming at providing “an assessment of a state of knowledge in a problem domain and identification of weaknesses and needs for further research” (Boell & Cecez-Kecmanovic, 2015, p. 163), also considering the difference between our review and systematic reviews as for purpose and aims, selection and relevance criteria, role of the researcher, and content (Boell & Cecez-Kecmanovic, 2015, p. 164). Yet, as criteria for good literature review practice, we will consider especially comprehensiveness, ongoing engagement as part of the hermeneutic stance we adopt (Boell & Cecez-Kecmanovic, 2014), criticality, and innovativeness (Boell & Cecez-Kecmanovic, 2015, p. 168). Accordingly, we will cover a wide range of publications and information sources and bridge the gap between academic researchers and practitioners. In addition, the literature review also has the advantage of being explicit, complete and reproducible. Furthermore, to our knowledge, no comprehensive review has been conducted to date on this subject. Finally, the review will contribute to the effort to provide a
better communication between, if not integration of, the two fields, thus continuing some work begun mainly in the late 1980s and 1990s (Golembiewski, 1987; Nutt & Backoff, 1993; Preston, 1986; Rainey, 1989) and worth developing today with the business relevance of open initiatives / data in the Public Sector (Cresswell, Burke, & Pardo, 2006) and the debate on public value (Alford & O'Flynn, 2009). To conduct this review, we will follow a multistep process as recommended by Tranfield et al. (2003) as well as Schryen (2015) and adopted in other similar works management research (for example, Zott, Amit, & Massa, 2011). Besides the motivations for the review, the steps will include i) search and acquisition, ii) analysis, interpretation, and synthesis, iii) guidance and conclusion. From 1995 to 2016, the review will include articles published in peer-reviewed academic journals in which the notion of open innovation, e-government, public management (and others key words like digital government, and so on)¹, as well as professional or practitioner journals, books, and public organizational reports. As for the concepts considered in the literature review (Webster & Watson, 2002), specific attention will be given to the analysis of the linkages of open innovation with other perspectives investigated for connecting research in Management and Public Administration, considering, in particular:

- The role of inclusive management with regard to participation and inclusion as independent dimensions of public engagement (Feldman, 2005; Quick & Feldman, 2011).

- The challenges of open innovation for organizational control mechanisms with regard to the question of how to balance the need for government regulation and the decentralization implied by the principle of openness (Ouchi, 1979, 1984).

¹ The search will be carried out first on repositories such as Elsevier's Scopus, ISI Web of Science, Business Source Complete (Ebsco), and the e-Gov Reference Library (EGRL).
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• The patterns of information use and production, considering the paradox in producing information: whereas analysts systematically produce information mostly not directly used in decision making, they continue to produce reports because of the symbolic value of the activity (Feldman, 1989).

• The dynamics of value creation and production for open innovation in the public sector considering the debate raised in the Management field, for example, crowdsourcing (Afuah & Tucci, 2013) in contrast with the alternative stance in the public sector concerned with public value and social value (Benington & Moore, 2011; Kroeger & Weber, 2014).

Conclusion

Although in this paper we discuss the early stages of the research (motivations, search, acquisition, and preliminary analysis) we anticipate that the results of the review will help to draw new avenues of research for academic researchers as well as useful actions for practitioners in the public sector:

• The translation of open innovation in Public Administration will be clarified for scholars and public managers.

• The connection and integration of Management and Public Administration literatures on open innovation are currently developed in silos, according to the above-mentioned themes and topics.

• The review aims to provide a clear theoretical framework to support public managers and policy makers for informed decision-making on organizational actions and public initiatives for carrying out open innovation in the public sector.
REFERENCES


Government IT: A Public Value Framework.


Tranfield, D. C., Denyer, D. C., & Smart, P. (2003). Towards a methodology for Evidence-Based


Webster, J., & Watson, R. T. (2002). Analyzing the past to prepare for the future: Writing a literature review. MISQ Quarterly, 26(2), XIII–XXIII.


