

Introduction to the Special Issue: Public Administration, Technology & Innovation

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Introduction

The spread of information and communication technologies (ICT) has turned "technology" into one of the key considerations when designing public policies – from economic policy to even social and human-rights policies – and its implementation systems – from the organization of policy design to implementation and evaluation. "Technology" as the new center of attention has been paralleled by the emergence of "innovation" in society, economy and state as the solution to most problems from social cohesion to economic development to government performance.

Yet, there is very little coherent and systematic theoretical thinking about the meaning of this "technology and innovation"-led way of thinking. There is not even a common understanding of whether "innovation" means the same thing when one looks at the processes in society, economy and government. Further, neither political science nor technology and economics-based innovation research has fully managed to encompass all social and economic aspects related to technology, innovation and its impact (see, e.g., Kattel et al. 2012). Even in the case of ICT – and even more so in the "new" emerging technologies like bio- and nanotechnology – we are far from understanding all potential challenges posed by the future developments in almost all fields of life, from environment to medicine to leisure time, and also to state-society relations and the working of state and government.¹

Both neoclassical and heterodox economists have been studying technological change from a plethora of angles and perspectives for decades. While disagreeing with one another on many principal and even more on detailed issues, most economists still tend to agree with the Schumpeterian definition that "an innovation is the implementation of a new or significantly improved product (good or service), or process, a new marketing method, or a new organizational method in business practices, workplace organization or external relations" (see OECD and Eurostat 2005, 46). In Public Administration (PA) and Political Science research in general, there is even more confusion regarding the meaning of the terms "innovation" and "public sector innovation" and how these differ from other concepts of "change" in general

¹ For a discussion from the nanotechnology perspective, see Drechsler (2009).

(see Lynn 1997; Pollitt 2010). As a result, “innovation” tends to be used in a very lax way in PA, mostly just denoting technological change perceived as positive, at least in the sense of government efficiency. This creates many problems on both the theoretical and the empirical level as well as regarding the policy relevance of PA research.² It is true that alongside this conceptual confusion, there exists quite a coherent body of research on e-government or e-governance. However, as Pollitt (2011) has rightly stated, keeping research on PA and technology solely in the context of e-government is a much too narrow perspective for dealing with the complexities of technology, innovation, politics, policy and governance (and, we might add, also potentially limits access to the understanding of e-governance in context itself) (see also Drechsler et al. 2010).

The European Group for Public Administration’s (EGPA) new Permanent Study Group (PSG) XV on “Public Administration, Technology & Innovation”, which the editors of this volume were asked to establish, and which was founded in 2010 and launched in 2011, seeks to offer a platform for dealing with these challenges in researching innovation and technology in economy, society and state. We follow a dynamic perspective according to which technological development both in the market and in state institutions does not take place in a vacuum. Therefore, technological development is a co-evolutionary process (see Nelson 1994; Nelson and Sampat 2002) in which both market and state institutions and structures contribute to both public- and private-sector change. In the PSG’s research, we plan to look at this co-evolutionary process from the side of state and government. Still, we contend that market forces are probably the key drivers of technological development and innovation, but depend on the supportive role of state and government. Thus, from the co-evolutionary perspective, the role of the state is something more complex and dynamic than merely “paralleling” market forces and institutions, and thus, the state needs to provide complementary institutional capabilities. The co-evolutionary perspective and emphasis on complementarity then questions the prevalent definitions of innovation in the public sector, or public-sector innovation, both by taking it more seriously in the market sense and by applying a more conceptually focused approach. From this view, innovation in the public sector is not about paralleling technological and organizational innovations of the private sector, but about finding, developing and using the complementary capabilities of policy and administration which help to increase innovation capabilities in the markets.

The current special issue of the *Halduskultuur – Administrative Culture Journal* presents the first publications and outcomes of the study group’s research efforts. The special issue includes a selection of five papers from two meetings of the PSG – *Halduskultuur – Administrative Culture* conference held in Tallinn on 6-7 May 2011, and the first official PSG meeting at the EGPA annual conference in Bucharest on 7-10 September 2011. While the PSG attempts to bridge the divide between economics and PA research by covering both research on industrial and innovation policy and its governance and on innovation in the public sector and the role of technology in PA, the current special issue encompasses papers that focus on the latter side.

² This confusion in PA and political-science research is also one of the reasons why economics has largely monopolized the thinking about the role of public policies in innovation and technological development (see, e.g., Karo 2012).

Overview of the special issue

That said, the five papers in this special issue look at the issue of innovation and PA in rather broad terms. That is, technology and innovation are not seen solely in terms of implementing new solutions in government, but in terms of its potential broader implication to politics, policy and governance. Further, all of these essays look at innovation as an interplay between technological possibilities and human capabilities and ask whether technological solutions and capabilities automatically lead to enhanced policy and administrative capacities.

In the first paper, B. Guy Peters offers an insightful discussion – which, given its scope, could serve as an introduction to the following papers by itself – on how technological capabilities may affect the information capacities of governments. The discussion in this paper is based on the observation that current public-governance reforms are increasingly moving away from emphasizing management and efficiency and rather center on issues of the policy capacity of public bureaucracies. In this context, the crucial question is whether better technologies lead to better information and policy capacities. Peters critically discusses the perceivably dominant management-driven and technology-hyped assumption “that processes associated with management – inside and outside of government – will alter the performance of the public sector and that technology provides the best interface for achieving these goals”. What he proposes is that the eventual human interaction with technology – either in the form of decision-making, the role of ideas of policy-makers, or the use of information as power etc. – will affect the outcome of policies, and that technology may simply not be the key solution to all of the fundamental governance problems. Thus, the paper brings technological opportunities and the human factor in policy-making on an equal standing, as opposed to following technology-hyped thinking. The importance of this contribution is that it sheds light on the critical aspect of how the emphasis on technology tends to obscure more basic issues of formal organizations, such as how information is transmitted within and among organizations and from the environment to the organization.

In the second paper, Bertien Broekmans and Tineke Ruijgh-van der Ploeg tackle the issue of policy expertise in a specific policy field – flood-risk management in the Netherlands – where the application of technological and organizational changes influences the content of information submitted and used in the policy processes, thus also changing the policy arena and policy outcomes. They show how one can distinguish between the expertise of “experts” (scientists and researchers of engineering, water-management etc.) vs. that of policy-makers and how these lead to different policy-making arenas – system perspective vs. network perspective. The former represents a technical-rational perspective of how experts see issues such as flood-risk management, while the latter represents a more interactive perspective where policy actors are seen as “intentional agents, interacting in networks of interdependencies and relationships”. Accordingly, policy-making is a process where these different perspectives meet and co-design policy solutions. Here, the technological and organizational progress – in the case of flood-risk management a movement from mainly protective infrastructure towards inclusion of concerns for spatial

planning and crisis-management preparation as presented in two case studies from the Netherlands – becomes a variable that changes the requirements of policy-making arenas in terms of information collection, management, decision-making, coordination etc.

In the third paper, Martin Doornbos provides a similar discussion as the previous paper of the several types of interactions between experts (in this case researchers in the field of development policy and aid) and policy/politics. He shows how the new means of financing expert research in the form of project-based financing – commissioned or conditional research, mission-oriented research etc. – by international and governmental organizations influence the content and direction of research and the accumulation of expertise in policy-making. He critically argues that in the field of development policies, the spread of “agency-initiated” financing mechanisms, where international and national funding agencies pre-determine the scope, direction and content of research, is out-balancing more traditional “researcher-initiated” financing mechanisms. In the end, this change of financing of expert research through project-based mechanisms (often associated with private-sector organizational innovations of the 1980s) may reduce scientific expertise to a more controlled and limited policy-advisory function.

In the fourth paper, Claude Rochet, Joris Peignot and Adrien Peneranda study the causes of and provide potential solutions to the many failures in ICT or digitalization projects of public organizations. They make a very strong argument against too simplistic or overly optimistic a view of the role of technology in PA and the ease of adopting private-sector technological solutions in public-sector organizations. They show that by simply taking ICT technologies from the private sector and implementing them without taking into account the differences in public-sector organizations, digitalization programs may end up repeating the failures of New Public Management reforms. Thus, they provide a more fundamental understanding of technology and its role in PA as a point of departure and use the example of a pilot project implemented in the Ministry of Finance in France to highlight the necessary competences that public-sector organizations need to obtain and develop in order to succeed in making the best use of ICT technologies in government.

In the fifth and final article, Mariana Cifuentes studies the case of the free education reform in Kenya, where the government and international donor organizations opted to finance the policy by electronic transfers of funding to schools. The use of new technology was expected to both increase the speed and effectiveness of implementing the free education policy and to reduce corruption by high-level civil servants. Cifuentes shows how for many years, the new policy and its supportive technological solutions were seen as a success story, as the potential for corruption and also the need for oversight were reduced. Yet, after the program was started and implemented, it was discovered that in fact the bureaucracy had adapted to the new technological system and still extracted its corruptive rents – not directly from government budget lines but through its influence over the recipient schools as the latter ended-up “re-wiring” the fund to the high-level bureaucrats. Thus, in the end, Cifuentes argues that the initial, or narrow, administrative success of adopting a new technological solution still ended up with negative effects on policy outcomes.

Conclusion

Altogether, this special issue hopefully sheds light on some of the many issues related to the role of technology and innovation in PA and governance. In all of these papers – in some more explicitly than others – strong criticism of understanding, implementing and evaluating technological changes in the public sector in ways that parallel private-sector technological change is manifest. By moving beyond the concerns or evaluation of pure administrative efficiency, all of these papers highlight that policy effectiveness is not always achieved by technology-induced administrative changes because the role of government and policies – to be complementary to public-sector and societal processes – is more complex and requires different sets of analytical and evaluative criteria for understanding the positive and limiting aspects of new technological opportunities.

Hopefully, the collection of ideas in this special issue has shown the value of building new avenues for studying the interactions between public administration, technology and innovation. The PSG will move on from here with a continued emphasis on the ideas represented and questions posed in this special issue. In addition, the PSG will also provide a platform for studying many practical questions of state-market-technology interactions – such as the changing role of state-owned enterprises in both coping with and supporting technological development – but also for studying more complex issues such as the questions of ethics, privacy etc. that are turned into everyday concerns for entrepreneurs, policy-makers and public managers by the technological development and opportunities. Still, the main emphasis of the PSG will stay on the perspective of PA and the state and the complementary capabilities of policy and administration which help to increase innovation capabilities in the markets.

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