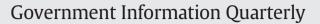
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## E-governance innovation: Barriers and strategies

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#### ABSTRACT

Various models have been developed to explain the adoption of *e-government* but systematic research on barriers to *e-governance* is lacking. On the basis of the literature, this paper develops a theoretical model of e-governance innovation that highlights (1) phases in the innovation process, (2) government and citizen barriers and (3) structural and cultural barriers. Fixing problems and framing stories are presented as the two principal strategies for tackling the various barriers throughout the innovation process. This model is explored in a case study of a technological system for collaboration between police and citizens in The Netherlands. The case shows the value of the model and highlights that e-governance innovation is about designing comprehensive strategies of fixing and framing to tackle the variety of barriers. More specifically, the research highlights that government officials and citizens are not motivated by the promise of technology but by frames that connect technological opportunities to the production of public value.

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#### 1. Introduction

New technologies are increasingly used to support the development of networked interactions between government organizations and citizens: e-governance. The potential of contacts between government and citizens for producing public values—i.e. outcomes that are generally regarded as desirable such as safety, security and prosperity—has been recognized for some time (Brudney & England, 1983; Ostrom, 1978; Percy, 1978, 1987) but practical and financial barriers have limited the developments of structural forms of citizen engagement. New technologies can be used to engage citizens in processes of cocreation (Kokkinakos et al., 2012), coproduction (Meijer, 2011) and citizens sourcing (Hilgers & Ihl, 2010).

E-governance holds a huge promise for improving governmental processes through citizen coproduction (Milakovich, 2012; Tapscott, Williams, & Herman, 2008) but, still, governments are surprisingly slow in adopting new technologies for governance. Norris (2010: S181) highlights that the use of new technologies to build interactive relations is still limited: e-government is mainly informational. In spite of their potential, the use of new media for governance is still limited (see, for example, Mergel, Schweik, & Fountain, 2009; Mergel & Bretschneider, 2013). There is a need for a better understanding of the difficulties of using new technologies to engage citizens in government processes.

Various models have been developed to explain the adoption of e-government (Margetts & Dunleavy, 2002; Moon, 2002; Norris & Moon,

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2002; Snellen, 2005) but systematic research on barriers to *e-governance* is lacking. Models for e-government can form a starting point since they state that many barriers—related both to governments and citizens—render the adoption of e-government difficult and explain why promising opportunities are often not used. This paper aims to build upon this literature and enhance our understanding of barriers to e-governance and strategies for tackling them by empirically investigating and analyzing e-governance innovation in terms of phases, domains and types through a case study of the development of Citizens Net in The Netherlands.

E-governance innovation will be studied by zooming in on one case, a technological system for engaging citizens in police work in The Netherlands, and studying this case over an extensive period of time. Most studies of barriers to e-government innovation use a survey as research method (Eynon & Dutton, 2007; Eynon & Margetts, 2007; Moon, 2002; Norris & Moon, 2002; OECD, 2003; Schwester, 2009). This type of research provides information about general trends but little in depth understanding of specific mechanisms (Schwester, 2009: 121). In that sense, an in-depth and longitudinal case study of e-governance innovation can form an important contribution to the literature by highlighting the dynamics over time.

The paper presents a theoretical framework of the different barriers to e-governance innovation and presents strategies for tackling them. 'Fixing' and 'framing' are presented as the main strategies for realizing e-governance innovation. The development of Citizens Net, a system for engaging citizens in police work, is used to illustrate the value of this analytical model. The key contributions of this paper to the literature on barriers to e-governance are (1) the identification of 'framing' as crucial to successful innovation and (2) the need to tackle not only barriers within government but also among citizens.

#### 2. Barriers to and strategies for e-governance innovation

#### 2.1. Barriers to e-governance innovation: phases, domains and types

Our conceptualization of e-governance states that it is about using new information and communication technologies to help government to strengthen interactions with citizens and societal actors to solve societal problems collectively (Dawes, 2008; Dunleavy, Margetts, Bastow, & Tinkler, 2006; Milakovich, 2012). E-governance is about engaging citizens and stakeholders and letting them *coproduce* public services while e-government views citizens largely as *consumer* of these services. E-participation is also about engaging citizens but this literature emphasizes the engagement in *decision-making* while our perspective on e-government policies and the delivery of services. This means that e-governance is about using technologies to position government in an external network with citizens and stakeholders to cooperate in the production of policies and services.

The study of e-governance innovation builds upon the growing body of literature on public innovation. The literature on public innovation has only been expanding rapidly since the 1990s (Altshuler & Behn, 1997; Ansell & Torfing, 2014; Hartley, 2005; Osborne & Brown, 2005; Sørensen & Torfing, 2011; Szkuta, Pizzicannella, & Osimo, 2014; Walker, 2006). Szkuta et al. (2014), Bekkers, Edelenbos, and Steijn (2011: 197) define public innovation as 'a learning process in which governments attempt to meet specific societal challenges'. Much of this literature focuses on barriers to innovation and, more specifically, many authors have tried to identify barriers to e-government. Based on Eynon and Dutton (2007: 229, 230), we define barriers to e-governance innovation as characteristics-either real or perceived-of legal, social, technological or institutional contexts which work against developing e-governance because they: (a) impede demand, by acting as a disincentive or obstacle for users to engage with e-governance; or (b) impede supply, by acting as a disincentive or obstacle for public sector organizations to provide e-governance; or (c) constrain efforts to reconfigure access to information, people and public services in ways enabled by ICTs.

The various sorts of barriers can be systematized along three dimensions. Firstly, the barriers to e-governance can be analyzed on the basis of a *phase model* of innovation. An important finding in the literature is that barriers for innovation differ in the different stages of the innovation process (Mumford, Scott, Gaddis, & Strange, 2002: 717). Following Meijer (2014), we propose the following phases with different barriers:

- Idea generation. In this phase, the idea of transforming government through the use of new technologies is developed. Interpretative barriers can play a key role in this barrier: many actors will not be prepared to change the way they have been viewing themselves, others and the world (Dougherty, 1992).
- Idea selection. Out of all the ideas that are being developed within an
  organization, some are selected for further development. Organizational attention and resources are scarce and hence selection is needed.
   Political and organizational barriers are crucial here: the idea needs to
  compete with other ideas for attention and resources (Margetts &
  Dunleavy, 2002).
- *Idea testing*. The idea is developed and tested on a small scale to see whether it 'works' in practice. In this phase, the use of new technologies for creating citizen engagement runs into a range of technological, organizational and institutional barriers (Eynon & Margetts, 2007).
- Idea promotion. A successful test will be followed by promotion of the idea to get it implemented on a larger scale. In this phase, financial and capacity barriers may prevent the process of innovation from moving forward (Bekkers et al., 2011; Rogers, 1995). The 'not invented here' mechanism may also form a barrier to the adoption of the idea in another setting.

• *Idea roll-out.* If other organizations have decided to adopt the innovation, they have to implement it. Technological and organizational barriers, again, play an important role (Eynon & Margetts, 2007). While experimental technology could have worked in an experimental setting and a selected group of enthusiasts were cooperating, the idea now requires robust technology and acceptance by a wide range of employees.

Secondly, barriers to e-governance differ in their domains: government barriers and citizen barriers. The literature on government barriers highlights that the specific characteristics of government organizations result in several barriers (Margetts & Dunleavy, 2002: 3). Moon (2002) highlights personnel capacity, technical capacity (number of IT staff and IT skills), financial capacity and legal issues as barriers. Schwester (2009: 116) mentions lack of political and management support and Eynon and Margetts (2007) and the OECD (2003) refer to a lack of leadership. These forms should be understood within the context of external support for e-governance (Schwester, 2009: 116). Lack of coordination is also mentioned as a barrier (Eynon & Dutton, 2007: 231; Eynon & Margetts, 2007: 77) and Sørensen and Torfing (2011) highlight inter-organizational barriers. Technical barriers related to the availability of hardware and software and interoperability (Eynon & Margetts, 2007) but also the ability to deal with issues of privacy and security are highlighted in the literature (Gilbert, Balestrini, & Littleboy, 2004; West, 2004). Some sources highlight interorganizational barriers such as the reluctance of agencies to give up their autonomy (Eynon & Dutton, 2007; Homburg, 1999).

Citizen barriers arise when citizens are expected to use e-governance and to contribute to the production of public values (Margetts & Dunleavy, 2002: 9). Citizens need the opportunities skills and motivations to engage with government agencies in the production of public values. In the literature on e-government, the 'digital divide' (OECD, 2003; Van Deursen & Van Dijk, 2011) is identified as a key barrier. Another barrier is that new technologies cannot be integrated in people's daily routines: they are not domesticated (Frissen, 1989). The image citizens have of government is an important barrier: if citizens expect little of government or they do not trust government, they will not be willing interact through digital means (Margetts & Dunleavy, 2002: 9). The image of government may also conflict with the image of the Internet since citizens may not be willing to use a 'medium for fun' to interact with government which is everything but fun (Margetts & Dunleavy, 2002: 9).

Thirdly, there are structural and cultural barriers to e-governance. While many studies have identified a variety of structural barriers such as funding, technology and skills, Margetts and Dunleavy (2002: 5) highlight the importance of cultural barriers: '(...) organizational values may work against the development of electronic services.' They argue that especially an image of the technological world as a 'terribly unforgiving place' where 'the least jolt may trigger its complete collapse' leads to resistance to technological change. This image is creative but seems to focus exclusively on technology whereas the cultural barrier also involves the change in existing routines and value orientations (cf. Kling, 1996) and Sørensen and Torfing (2011) highlight the important role of 'identity-related barriers'. For one thing, staff may resist e-governance since they fear that technology may replace people (Schwester, 2009: 116). More fundamentally, bureaucratic culture-formality, uniformity and hierarchy (Frissen, 1989; Margetts & Dunleavy, 2002: 5, 6)preserves the traditional ways of interacting with citizens. Additionally, government officials fear that new technologies may undermine the robustness and reliability of government.

Cultural barriers can also be identified on the side of citizens. Citizens may be opposed to changes in the relationship with government because they feel it threatens their autonomy or privacy (Meijer, Burger, & Ebbers, 2009). Cultural barriers are also related to the images citizens have of government, their own role and new technologies. If they see government as unreliable, their own role as passive and new Download English Version:

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