A metatheory of e-government: Creating some order in a fragmented research field

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ABSTRACT

Theoretical fragmentation in e-government studies hampers the further development of this field of study. This paper argues that a metatheory can reduce theoretical confusion. Ideas from the philosophy of the social sciences are used to develop a metatheory of e-government consisting of three dimensions: explaining/understanding, holism/individualism and change/maintenance. This metatheory is used to analyze a corpus of papers on e-government in both journals on public administration and information systems. The analysis of the 116 papers shows a bias towards explaining e-government (rather than understanding social constructions), analyzing holistic systems (rather than the behavior, attitudes and cognitions of individual actors) and studying incremental rather than transformational change. We conclude that the value of the metatheory lies in (1) facilitating debate about e-government between researchers with different perspectives, (2) enabling researchers to be clear about their social science perspective, and (3) developing educational programs that bring in various scientific perspectives.

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1. Introduction

In the last decades, information and communication technology (ICT) has altered public administration by transforming internal (business and policy) processes and external interactions. Garson (2006) provides an enlightening overview of the use of ICT in government over 70 years and highlights that the use of these technologies started in a specific set of organizations to digitize and streamline internal processes to develop into general usage by all government organizations to re-structure external information relations. The use of innovative new channels has been a key development of e-government in the past decade (Reddick & Anthopoulos, 2014). Policy makers and scholars from different backgrounds have labeled this transformation as electronic government or e-government. E-government as a *set of techniques* is an important driver for the modernization of the public sector and e-government as *a practice* can be described as the use of ICT in order to design new or to redesign existing information processing and communication practices in order to achieve a better government, especially in the field of electronic service delivery to companies and citizens but also for managerial effectiveness, and the promotion of democratic values and mechanisms (OECD, 2003; Moon, 2004; Gil-Garcia & Pardo, 2005).[1]

In the slipstream of this practice, the specific research domain of *e-government studies* has emerged, although the scholarly interest for ICT in public administration exists much longer (e.g. Kraemer & King, 1986; Snellen & van de Donk, 1998). Some claim that this relatively new field of scholarly attention lacks scientific rigor and is *under-theorized* (e.g. Grönlund & Andersson, 2006; Margetts, 2009; Bekkers, 2012), while Yildiz (2007: 646) stresses the "definitional vagueness of the e-government concept". On the other hand, in many studies an instrumental – managerial and project – orientation prevails which has contributed to the rather descriptive nature of these studies (for a critical discussion: Bekkers & Homburg, 2007; Heeks & Bailur, 2007; Dawes, 2008). As such Scholl (2006) states that e-government studies are rather *over-theorized* than under-theorized. He argues therefore that e-government studies are fragmented which results in conceptual confusion (see also Pollitt, 2011: 380–381; Yildiz, 2007: 650, 651). The conceptual confusion hampers academic debates and scientific progress but also impairs the contribution of e-government studies as an academic field to society.

Given this fragmentation of e-government studies, Scholl (2006) calls for a more integrative approach (see also Pollitt, 2011; Dawes, 2008). Following up on this call, this article attempts to create some order in the fragmented research field by introducing a metatheoretical framework. A metatheory presents a systematic overview of the more or less conscious or unconscious assumptions behind different sorts of theoretical, empirical, and practical work (Hjorland, 1998). It helps to reduce conceptual confusion by providing a framework that can be used to position various approaches as well as to understand their immanent strengths and weaknesses. The overall goal is to contribute to

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the maturity of the field of e-government studies by providing a foundation in terms of ontological and epistemological assumptions for the different approaches to e-government studies. A metatheory can be used to map the variety in approaches and possibly identify the dominance of certain approaches and the neglect of others. We have formulated the following research questions for our research:

1. How can we develop a metatheory of e-government to map the different ontological and epistemological approaches to this field of study?
2. Do we recognize all the approaches that the metatheory predicts in recent publications on e-government and can we identify patterns of dominance and neglect?

In order to answer the first question, we identify the major ontological and epistemological positions and traditions in the social sciences as the basis for this metatheory (Section 2). Following Hollis (2007) and Burrell and Morgan (1979) we distinguish positions that try to explain and understand the nature and outcomes of social actions and we illustrate how these traditions are used in e-government studies on the basis of a number of classical studies. The next step is to use this metatheory for systematically categorizing research on e-government. The methodological strategy that is used to analyze the current body of e-government studies is sketched in Section 3. Section 4 presents the results of our systematic literature review. The analysis highlights that nearly all combinations of positions can be discerned but there is an emphasis on papers that focus on explaining incremental changes. In Section 5 a conclusion is formulated and an agenda is presented. We argue to improve research from positions that are neglected as well as to pay more attention to metatheory in educational programs in order to teach students about the different positions in e-government research.

2. A metatheory of e-government

2.1. A metatheoretical cube with three dimensions

Yildiz (2007: 647, 648) describes how the study of e-government started in the 1960s and evolved into a full fletched field of study in the first decade of this millennium. The variety in approaches that have been developed can be – and have been – organized in different manners. One can, for example, focus on activity domains of electronic government activity (such as e-government, e-democracy, e-participation, e-procurement, e-auctions, e-policy, etc.) or on disciplinary perspectives (legal, technological, financial, managerial, political). This paper, however, aims to distinguish approaches in terms of their assumptions and ambitions for knowledge production about e-government. For a fundamental assessment of ontological and epistemological assumptions in order to develop an e-government metatheory, we will use different social science perspectives.

A metatheory is a theory whose subject matter is other theories in a specific research domain in order to understand what different traditions and positions are, what the role of knowledge is and how it can be obtained, and what the basic assumptions behind these traditions and positions are (Fiske, 1986). In our case the subject matter are the different theories that are used in e-government studies. A metatheory 'works' when it succeeds in presenting a systematic overview of key differences between various theoretical approaches.

Hjorland (1998: 607) indicates that different ontological and epistemological positions form the basis for metatheories in the social sciences. Metatheoretical perspectives have been developed for such diverse disciplines as sociology (Ritzer, 1988), information science (Hjorland, 1998), management science (Tsoukas, 1994) and family studies (Klein & Jurich, 1993). A basic metatheory of e-government is proposed by Heeks and Bailur (2007) who make a distinction between positivist and social constructionist studies. Our metatheoretical framework regards this distinction as one relevant dimension but also

identifies two other dimensions and, as a consequence, our metatheory will take the form of a cube with three dimensions that we have distilled from the literature (see Fig. 1). In doing so we will use Hollis (2007) as well as Burrell and Morgan (1979) as our major source of reference to understand the different ontological and epistemological positions in social sciences.

The three dimensions of this cube will be illustrated and developed further on the basis of classical papers in e-government studies.

2.2. Dimension 1 'Research ambition': explaining — understanding e-government

The first dimension of our metatheory, explaining versus understanding e-government, is similar to Heeks and Bailur's (2007) distinction between positivist and social constructionist studies. This distinction refers to the ambition of scientific work: explaining or understanding. Explaining is generally regarded as providing an account of a phenomenon on the basis of an outsider's perspective while understanding takes the actor's perspective as the central focus of the account (Hollis, 2007: 16, 17). Hollis (2007: 17, 18) stresses that more mechanical terms such as 'agents' and 'systems' are used for explaining while the terms 'actor' and 'game' are used for understanding to emphasize that human beings are not guided by external rules but actively attribute meanings. When we apply this distinction to understand the foundations of e-government studies, then explaining as a perspective is characterized by a focus on key variables of e-government such as technology, work processes or organizational structure. The ambition is to identify more general patterns or 'laws'. However, understanding implies studying the meanings that are given to processes and artifacts. The ambition is then to find out how (local) meanings are constructed in social interactions which eventually may lead to a shared understanding (Heeks & Bailur, 2007: 249, 250).

A key example of the focus on explaining is the application of Rogers (2003) theory about the diffusion and adoption of innovations to studying e-government. From this perspective the maturity of e-government is viewed in terms of a specific adoption rate, in which stages of adoption are being distinguished in combination with specific adopter categories. A related line of thinking is found in so-called stage models of e-government. These models build upon Nolan's (1979) classical work and embrace the idea that e-government development follows a stage-model. The model starts with being present on the web, which evolves into vertical and horizontal integrated services that leads to a transformation of government in terms of forms of whole joined-up
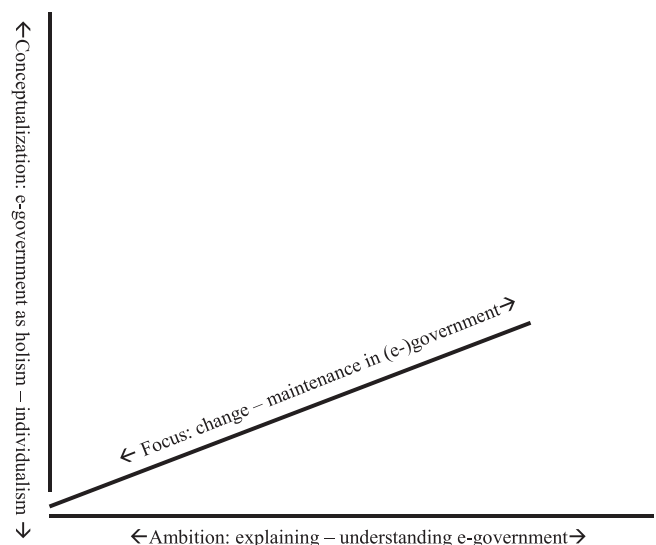

Fig. 1. Overview of different approaches to e-government studies.