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Electronic Services in the Public Sector: A Conceptual Framework

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Abstract

Electronic services provided by governmental organizations, here referred to as public e-services, are frequently discussed in the e-government literature. There is, however, little consensus on the meaning of the concepts used to describe and discuss these e-services, and hence, the literature is full of synonymous terms and concepts. This paper is conceptual and presents efforts to understand e-services in the public sector domain by unpacking the public e-service concept into three dimensions; as being (1) a service, (2) electronic, and (3) public (as contrasted to being private). Based on a hermeneutic analysis, these dimensions are discussed in a number of combinations, illustrating that a multi-dimensional take on public e-services must be adopted in order to capture the complexity of governmentally supplied e-services and contribute to theory development, as well as practical utility.

Keywords: e-government, e-services, public sector organizations, public services, information systems.

1. Introduction

Electronic government (e-government) and the use of electronic services in public sector organizations, here called *public e-services*, are currently significant themes in research on information systems (IS) and public administration (PA) (Dawes, 2009; Scholl 2010). This is hardly surprising considering the increase of development and use of e-services in the public sector (Ancarani, 2005). What might come as a surprise, however, is the large number of concepts used to describe e-services delivered by governmental agencies. Journal articles, conference papers and reports on e-government and public e-services testify of a research field full of related concepts that appear to be used synonymously: *e-government service* (e.g., Jansen, de Vries and van Schaik, 2010), *e-service* (e.g., Boyer, Hallowell and Roth, 2002; Kaisara and Pather, 2011), *public e-service* (e.g., Karlsson, Holgersson, Söderström and Hedström, 2012), *digital service* (Re, 2010), *e-Public-Service* (Lenk, 2002) and *Web site channel* (Ebbers, Pieterson, and Noordman, 2007); to name a few. It is, however, difficult to know with certainty that these concepts are representing the same phenomenon, since provocatively many scholars omit explicit definitions of the concepts they use. For example, if we take a look at the *e-service* concept, there are definitions of both e-service (e.g. Boyer et al. 2002) and public e-service (e.g. Buckley, 2003) produced by e-government researchers, but in surprisingly many publications on e-services in the e-government context, the meaning of *e-service* seems to be taken for granted – many scholars do not define or discuss what the concept e-service refers to at all.

E-government research has been criticized for “ghetto-ization” (Pollitt, 2011), “conceptual vagueness” (Yildiz, 2007) and “theoretical neglect” (Dunleavy, et al., 2006; Heeks and Bailur, 2007), referring to the inability to build on previous results and theory development from e-government research as well as adjoining fields of research. The variety of concepts and definitions used to study and describe e-services in the e-government context not only makes it difficult for researchers and practitioners to discuss use and development of e-services in the public sector; it also makes e-government research on e-services an easy prey for the critics as it illustrates difficulties for researchers to build knowledge in a cumulative manner.

In this paper, we explore and discuss the meaning of the concept *public e-service*, a concept that, we argue, encompasses most of the concepts used to denote electronic interfaces between governments and citizens. The challenges with the concept public e-service are, however, manifold. The term e-service contains two parts: the *e-* and the *service*. These two parts can be seen to represent two different things. The ‘e’ represents that something is done ‘electronically’ and can thus be linked to an electronic artifact. The ‘service’ represents something intangible – a process in which value is created for someone. Hence, the e-service concept can be explored from both an (1) electronic artifact (technology) perspective, and a (2) service perspective. When considering the organizational context in which the e-service is used, yet another perspective is added. This perspective highlights the ownership or availability of the artifact or service; a perspective in which attention is directed towards exploring potential implications based on whether the e-service is (3) public or private.

The community of researchers concerned with e-government and public e-services is truly multidisciplinary and the interests of the individual e-government researcher guides which of these perspectives on the public e-service will be adopted. The multidisciplinary nature of the field strengthens the e-government research in many ways (Scholl, 2007), but can make conceptual discussions difficult. This possibility to perceive and interpret the phenomenon that the concept e-service refers to in several different ways might be an influencing factor to why the concept (public) e-service is used synonymously with several other concepts. In order to increase the analytical generalizability, conceptual maturity and practical benefit of e-government research, researchers concerned with e-services need to define what they are referring to when discussing public e-services. Furthermore, *multi*disciplinary is not the same as *inter*disciplinary. Increased communication between researchers of different disciplines is needed if the e-government field is to avoid the alleged ghetto-ization and, in turn, stimulate knowledge accumulation.

The aim of this paper is to discuss the public e-service concept from an interdisciplinary perspective and propose a broad conceptual framework for comprehending public e-services. The paper is hence conceptual and presents efforts to understand e-services in the public sector domain in order to prepare grounds for disambiguation of terminological and conceptual variations as well as conflicts observed in the e-government context. The paper is built on the assumption that in order to explain social phenomena we need concepts to think about them (Pollitt, 2011). We argue that conceptual refinement is an important step towards combating the theoretical underdevelopment claimed to plague e-government research (Heeks and Bailur, 2007). Conceptual frameworks provide the “metatheoretic language”, which is necessary for talking about and developing theories, i.e. help to identify the necessary elements as well as relationships between these elements (Ostrom 2005, p. 28). The concept of public e-services has suffered from what Sartori (1970) refers to as “conceptual stretching”, i.e. vague conceptualization: it can be everything or nothing. Simultaneously, it is important to recognize the complexity of the concept and understand that omitting one perspective could exclude significant insights. A conceptual framework for public e-services thus has to balance a holistic perspective without resorting to vagueness. Here, we believe there are significant

winnings in conceptual clarification to be made by adopting an interdisciplinary perspective, as well as an interpretative and hermeneutic approach, thus unpacking the public e-service concept into its parts and refine their meaning. This means building on previous research and theorization made within e-government research and adjoining fields of research.

After this introduction, the paper is organized in the following manner. First, our research perspective and approach is briefly described. Second, the meaning of the terms *service* and *e-service* is discussed. Third, some of the main characteristics of public organizations vis-á-vis private organizations are investigated, in order to clarify the *public* prefix. Based on these discussions the concept *public e-service* is addressed. The paper is concluded with a discussion on the main issues and questions that emerge when adopting a holistic perspective of public e-services.

2. Research perspective and approach

The work presented in this article is qualitative and interpretative research (Walsham, 1995), and constitutes the merge of two research perspectives; 1) Information Systems (IS), and 2) Public Administration (PA) research. In order to present ourselves as conversational partners and clarify our motivation and logic of this work, this section is devoted to the presentation of our view on technology and research approach.

2.1. Our view on technology

The implementation of public e-services can be perceived as an instance of organizational change through the implementation of information technology (IT); a topic researched by scholars in both IS (e.g., Orlikowski, 1992; 2007) and PA (e.g., Fountain, 2001a; Bekkers and Homburg, 2005; Dunleavy et al, 2006). In their often cited paper on different perspectives on the causal relationship between information technology and organizational change, Markus and Robey (1988) distinguish between three conceptions of causal agency; 1) the technological imperative, 2) the organizational imperative, and 3) the emergent perspective. The technological imperative views technology as a force that determines and constrains the behavior of individuals and organizations; in this perspective, information technology is seen as a cause of organizational change. The organizational imperative, in turn, assumes that behaviors are chosen according to a set of consistent preferences and that the impact of information technology on organizational change is a result of the motives and actions of the designers of information technology. This perspective assumes more or less unlimited control over both technological options and their consequences. In this article, we adhere to the third conception; the *emergent perspective* on the relationship between information technology and organizational change, namely that "the uses and consequences of information technology emerge unpredictably from complex social interactions" (Markus and Robey, 1988, p.588). This perspective acknowledges that behaviors and consequences, of both humans and the environment, are difficult to predict a priori. It also acknowledges the interplay between conflicting objectives and preferences, and the existence of non-rational behavior. Researchers adhering to the emergent perspective on causal agency allow for greater complexity and, as a consequence, are less prone to state normative implications (ibid.) or prescriptions regarding the relationship between technology and organizations. Nevertheless, according to this logic, it becomes the more vital to understand the interplay between the technology and its context, i.e. detangle some of the complexity and dynamics of the relationship. By discussing the public e-service concept in relation to it being an *electronic artifac*t, and a *process*, and in relation to its *organizational context*, we argue that some of this dynamics is captured.

2.2. The literature review and analysis approach – a hermeneutic process

The discussion and framework presented in this article is based on a literature review conducted as a hermeneutic process (Boell and Cezec-Kecmanovic, 2011). The review method (as described in Figure 1), starts with the search for publications on some identified concept and different terms used to describe it. After reading publications on this topic, the researchers' understanding of the phenomenon of interest increases; based on this understanding, the search for further publications can be refined. This is an iterative process in which the review and analysis processes are inherently intertwined, aimed at identifying interesting themes, contrasts, and 'gaps' in the body of literature. Based on this approach, we have continuously explored literature, policy documents, and e-government practices, with the intention to better understand the context and particularities of e-services in the public sector.

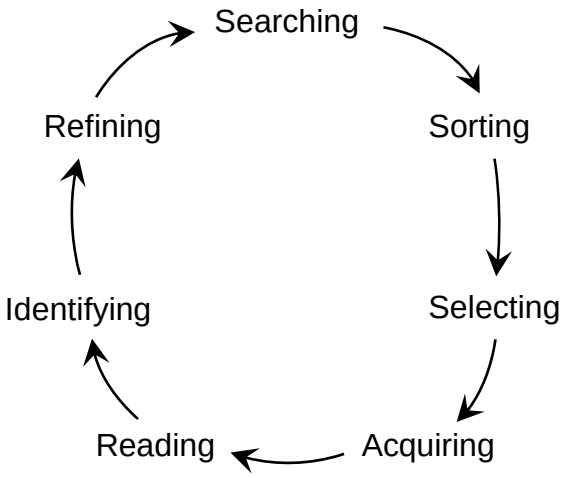

Figure 1: The hermeneutic circle for undertaking literature reviews (adopted from Boell and Cezec-Kecmanovic, 2011, p.9)

The starting point of the hermeneutic analysis presented in this article was a sense of shared frustration stemming from attempts to apply various theoretical definitions of "e-service" on our empirical work involving electronic services (e.g. *refs excluded for blind review*). Although belonging to different research areas, both authors experienced difficulties in applying existing literature when wanting to describe and understand the e-services present in our empirical cases. Seen from an information systems perspective, few publications discuss the technology related to the e-services in an explicit manner. In fact, the questionable manner of putting a "black-box" around IT seen in information systems research in general, as discussed by Orlikowski and Iacono (2001), seem to prevail also in the e-government research field. In addition, definitions of e-services, as defined in the private context, are uncritically transferred to the public sector. Given that theory and practice need to have a close relationship (Corley and Gioia, 2011), it is unfortunate that the concepts used to discuss e-services in the public sector mainly have their origins in the management literature. This transfer is particularly problematic when seen from a PA perspective; management literature tends to omit and put a "black box" around peculiarities of public organizations that influence conditions for and constraints on the implementation and use of e-services in the public sector. The frustration we felt sparked an interest in this topic; an interest that united the authors of this article to investigate the concept together through an interdisciplinary approach.

Given the large body of literature involving e-services, in general and in the public sector, we had to decide on where to start the initial literature review and analysis. Seen from a PA

perspective, it was natural that the particularities of the *public* context of this kind of e-services were particularly salient as a starting point of the analysis, i.e. the distinct context of public organizations and governments. Seen from the information systems perspective, in turn, the IT artifact features of the e-service were standing out as a point of departure of the analysis. Both research perspectives acknowledge service features of public e-services, albeit with slightly different meanings; hence, *service* was seen as a third starting point of the analysis. In accordance with the hermeneutic tradition (e.g., Alvesson and Sköldberg, 2009; Klein and Myers, 1999), we have investigated these three concepts in isolation and in various combinations, in order to understand the meaning of the concepts when compounded; thus, moving back and forth between the whole and its parts. The review and analysis has been guided by three research questions: (1) what are the main characteristics of (electronic) services? (2) what are the main characteristics of public services vis-á-vis private services? (3) what implications does the identification of these characteristics have for the conceptualization of public e-services?

During the course of this iterative work, we have continuously synthesized and written up our findings for presentation at workshops and conferences (*ref, ref, ref – excluded for blind review)*. Comments from e-government scholars and other colleagues have been fed back into our iterative work in terms of refinement of the search criteria, and increased understanding of the public e-service concept.

2.3. Organization of the paper

Our analysis will be presented according to the following logic; we will investigate the main characteristics of (1) service, (2) e-service, and (3) public organizations and services. Based on these three investigations, we finally address the meaning of (4) public e-service. Accordingly, we have alternated between the whole and its parts in order to bring clarity to the focal concept. It should be stressed that we, in this paper, have opted for a broad and overarching understanding, rather than an in-depth one. Our point of departure has been that a broad approach, i.e. including different or competing conceptual lenses, can be influential in acquiring an initial understanding or explanation of a phenomenon (e.g. Allison's & Zelikow´s (1999) study of the Cuban missile crisis). As identified, public e-services span over a number of disciplines, hence, we consider a broad approach fruitful as a first advancement toward reducing misunderstandings and preconceived assumptions in the field.

3. e-Service Characteristics

In order to discuss what a public e-service is, referring to e-services delivered by governmental organizations, the meaning of *e-service* must first be addressed. The term e-service stands for *electronic service* and consequently, it is a service delivered electronically (Scupola, Henten & Nicolajsen, 2009). But what is a service? And what does it mean to say that it is mediated electronically? In this section, meanings of the terms *e-* and *service* are discussed. The meaning of the additional *public* prefix will be addressed in section 4.

3.1. Service Characteristics

The word 'service' comes from the Latin word *servitium*, meaning 'slavery', and can be given various interpretations (AskOxford.com 2010b). Today, its meaning is no longer associated with 'slavery', instead it can refer to e.g. (1) the action or process of serving, (2) an act of assistance, and (3) a system supplying a public need (ibid). When turning attention to academic publications more elaborate and specific definitions can be found. Traditionally, a

service is perceived as an activity (Grönroos, 2008). In line with this view, marketing researchers Kotler and Keller (2009, p. 386), define service as "… any act or performance one party can offer to another that is essentially intangible and does not result in the ownership of anything. Its production may or may not be tied to a physical product". In this line of research, services are contrasted to goods and are said to have three well-documented characteristics; (1) intangibility, (2) inseparability, and (3) heterogeneity (Parasuraman, Zeithaml & Berry, 1985; Zeithaml, Parasuraman & Berry, 1990). Services are *intangible* in the sense that they are performances rather than objects. This makes it difficult to count, measure, test and verify most services in advance of sale/use to assure quality. The *inseparability* characteristic refers to that production and consumption of many services cannot be separated from each other. This entails that the quality of a service emerges as the service is delivered, typically in interaction between the customer/client and the service provider. The *heterogeneity* characteristic refers to that services often vary from producer to producer, from customer to customer, and over time. The heterogeneity characteristic is called *variability* by Kotler and Keller (2009), who add yet a characteristic to this list; *perishability.* This characteristic refers to the fact that services cannot be stored, which entails that demand is critical – services must be available to the right customers at the right time and place, and to the right price. Tightly coupled with these characteristics are service quality characteristics. In relation to quality of goods, service quality is more difficult to judge and is to a large extent dependent on the customer of the service. Simply put, service quality is ultimately judged by the customers, and different customers might have different perceptions of what constitutes a good service (Zeithaml et al., 1990). Furthermore, it is not only the outcome of a service that is judged by the customer, but also its delivery. Zeithaml et al. (1990) investigated potential causes of service-quality shortfalls and identified service-quality gaps customers may perceive. These gaps concern situations where there is a divergence between customers' expectations and the service delivered. In order to ensure quality services and avoid discrepancies between what the customers expect and what the service delivers, Zeithaml et al. (1990) state that the supplier of a service must (1) research the customers' expectations, (2) specify the service according to these expectations, (3) ensure that employees follow these service specifications, and (4) communicate information about the service to the customers that sets realistic expectations. Based on the service characteristics mentioned here, it follows that there is an asymmetrical relationship between the supplier of a service and the user/customer of that service, where the customer ultimately decides the quality of the service.

The above description of service represents a rather static, transactional, and provider-centric view on the concept (Tronvoll, Brown, Gremler & Edvardsson, 2011). More recent publications have adopted a different view on service, in which service is understood as a dynamic *process* with *value fulfillment* for the customer as its main objective (Grönroos, 2008). According to this view, value is co-created by provider and customer as resources are used and combined in various ways. The resources in question are brought to the table by both provider and customer, and these resources do not "have" value per se (Tronvoll, et al 2011); value is a product of the customer's *use* and *consumption* of the service. Here, *interaction* between provider and customer is of interest; hence, a process orientation rather than an output orientation is adopted (Edvardsson, Tronvoll & Gruber, 2011). In this view, the assumed differences between service and good are downplayed as "service" is described as a business-logic rather than an end-product. The claim that the customer co-creates value increases the role of the customer and its resources become important, meaning that the customer adds skills and additional resources in order to consume the service. If the consumer does not have the skills needed to make use of what is provided by a supplier or if he/she does not have the additional resources required for this, value will be non-existent or lower than otherwise (Grönroos, 2008). The supplier of the service, in turn, can be said to facilitate

customer value creation and, furthermore, has an opportunity to engage itself to various degree in the customers' practices and to interfere with the consumption process of the service.

In e-government research, the service-dimension of e-services is frequently discussed (e.g. Goldkuhl, 2007; Persson, 2009). In the e-government context, e-services typically deal with intangible goods such as exchange of information in order to receive permits, disbursements, register tax or similar. In fact, as some observers highlight, e-government represent the realization of an information intense government. Consequently, e-services become a matter of managing information and the relationship between governments and citizens become an information based relationship (Bekkers & Homburg, 2005; Taylor & Lips, 2008).

In sum, the main characteristics of a service that have important implications for understanding public e-services are that a service can be understood as a process in which someone is being served and value for the user must be created. Furthermore, service quality is assessed based on the value created for the consumer of the service, hence there is an asymmetrical relationship between user and supplier, in which the experiences of the user is of outmost importance.

3.2. Characteristics of Electronically Mediated Services

What about electronically mediated services? When something is said to be mediated electronically, it typically refers to something that is produced and controlled by means of a computer or other electronic device (AskOxford.com 2010a). In this context, 'computer or other electronic device' can be translated to information technology. An e-service is hence a service mediated through the use of information technology.

Researchers on e-commerce/e-business and marketing supply us with a couple of more detailed definitions of what constitutes an e-service (e.g. Rowley 2006; de Ruyter, Wetzels & Kleijnen 2001). Based on a literature review of research concerned with the role and nature of e-services and e-service experiences, Rowley (2006, p.341) defines an e-service as "deeds, efforts or performances whose delivery is mediated by information technology (including the Web, information kiosks and mobile devices). Such e-service includes the service elements of e-tailing, customer support, and service delivery". This definition emphasizes that e-services are constituted of actions (deeds, efforts or performances) mediated by information technology. Another definition is offered by de Ruyter et al. (2001, p.186), who define an e-service as "...an interactive, content-centred and Internet-based customer service, driven by the customer and integrated with related organizational customer support processes and technologies with the goal of strengthening the customer-service provider relationship". In comparison to Rowley's (2006) definition, this definition is narrower and emphasizes that the e-service is *Internet-based*, *interactive*, *customer driven*, and *integrated* with related technologies and processes within the supplying organization.

It follows from the definitions above that an electronically mediated service can be perceived as actions mediated through the use of information technology. There is a variety of different views on information technology and we will not elaborate on these here, but refer the reader elsewhere for such discussions (see e.g., Orlikowski & Iacono, 2001). In the e-service context, the *e-* typically refers to Internet-mediated technology, such as an Internet webpage. Currently we also see e-services mediated through the use of Short Message Service (SMS) and mobile (Smart Phone) applications. Although different in regard to their level of interaction, these e-services are all integrated with back-office technologies in the supplying organization. When viewing an e-service as being a technological artifact and as being connected to other technologies an additional set of actors and users become visible (compared to the service

perspective); i.e., the actors that design and supply the technology and the users of the back-office systems who use the output from e-services as input in their work.

Turning to the e-government field, regardless of the implicit treatment of the term e-service, there is much written on e-government and the use of e-services in the public sector. Much of these publications are supply oriented and focus on how e-services should be supplied and the evolution of these services (Persson 2009). The evolution is often described in maturity models (e.g. Layne & Lee 2001; Andersen & Henriksen 2006). These maturity models typically present four stages into which governmental agencies' e-services can be classified according to technological level and service level, assessing the level of interactivity (from basic services that merely provide information, to proactive and joined-up services for handling complete service transactions). These maturity models are helpful for characterizing public e-services, but they are not exhaustive in their descriptions of public e-services. If used alone, they risk representing a naïve and techno-centric view on technology in which the maturity characteristics of an e-service are assessed without investigating the actual demand for and use of the service (Persson, 2009). The maturity models touch on the technology aspect of e-services but underestimate the meaning of other important e-service characteristics. In fact, the organizational imperative (Markus and Robey, 1988) seems to be dominant when discussing the technology associated with e-services; the technology is designed for a specific purpose and organizational consequences of that technology are seen as being under the designer's control. In practice, however, there are persistent, and well documented, problems of anticipating both user acceptance and the organizational consequences when implementing a public e-service. In order to be informative and better illustrate the complexities related to public e-service, this kind of model needs to be complemented with further descriptions of the public e-service.

The meaning of *e-service* is different from the sum of its parts. An e-service is not simply a service mediated electronically; the technical aspect of the e-service results in a situation in which the mediation of the service, the interaction with the technical system supplying the service, needs to be understood as well. In relation to the traditional service characteristics mentioned in the section above, the technological aspect of e-services makes it possible to perceive this kind of services as less intangible considering that the consumer needs to access the service through the use of technology. The idea of e-services being less intangible than services is in line with Scupola, Henten and Nicolajsen's (2009) claim that there is no sharp and unequivocal dividing line between goods and services. In fact, they claim that e-services have characteristics in common with services as well as with goods, and therefore are situated between services and goods. The commonalities with goods also entail that the criteria for assessing the quality of the e-service is less bound to the user's experience and perception of the e-service. Although it can still be argued that it is the user's perception of the e-service that is most important when assessing the quality of the e-service, the technology-dimension implicates that the e-service, in part, can be evaluated in terms of, e.g. accessibility and usability. Comparing e-service characteristics with traditional service characteristics, it is also apparent that even though the technology might constrain the design and performance of electronically mediated services, there is an extensive variety and heterogeneity amongst e-services currently available. The inseparability and perishability characteristics are not always obvious characteristics for e-services, however. Here we can distinguish between service production, referring to the fulfillment of the overall objective of the service, and service mediation, referring to the interaction with the technology (e.g., the web-page). If these are separated, it is no longer valid to claim that the production and consumption of e-services are inseparable. For simple information-oriented e-services the production and consumption of the service is simultaneous, hence inseparable. For more complex e-services from which

something more product-like, such as reimbursement, might result, the production and consumption is not necessarily simultaneous.

In sum, the main characteristics of an electronically mediated service are that it can be perceived as a technical artifact that is typically Internet-based and connected to other information systems. As such, it should be understood in relation to its intended use and users, meaning that issues such as e.g., accessibility and usability are important aspects.

4. Public versus Private Organizations and Services

In e-government research the *public* prefix seems to be used in a self-explanatory way – it simply means that the e-service is supplied by a public sector organization. Nevertheless, the term public is not as self-explanatory as it might seem. In relation to information systems, the term public can also be interpreted as referring to systems that are "available for public use" (Sundgren, 2005, p. 81), including all services that can be accessed by the public, hence, also privately supplied e-services. Scupola et al. (2009, p.7) differentiate between different types of e-services and refer to e-services supplied by governmental organizations as "government-to-business or to consumer" e-services. They claim that this type of e-services is one out of four main groups of e-services, all encompassed by the same overall definition, the other three being 'business-to-business', 'business-to-consumer' and 'consumer-to-consumer'. Several researchers (e.g. Buckley 2003; Ilshammar, Bjurström & Grönlund, 2005), however, do make a deliberate split between governmentally and privately delivered e-services altogether, acknowledging differences between these two types of organizations, and in turn, their services. Sometimes the *public* prefix is used to demonstrate this difference. Yet, few of these researchers account for the specific context and logic of public organizations, in contrast to private organizations, in an elaborate and grounded fashion.

One could claim that the meaning of the public prefix is getting increasingly difficult to pin down with the growing involvement of private actors in the provision of public services. The organization of public sector services can vary in regard to *ownership*, *financing* and *production,* meaning that public sector services can e.g., be public with regards to the ownership and financing but private concerning the production. As a result, the boundary between what is private and public is becoming less distinct; public services are today provided in the borderland between public and private (Christensen, Lægrid, Roness & Røvik, 2005). The possibility to combine ownership, financing and production of services blurs who is behind *public* and furthermore, blurs some of the distinctiveness of public organizations, in contrast to private.

Nevertheless, although we recognize that there are similarities between public and private organizations and that the two sectors are becoming increasingly intertwined, we adhere to the basic assumption that there are also fundamental differences which cannot be downplayed (Bretschneider, 1990; Lundquist, 1998; Rainey & Bozeman, 2000; Allison, 2004; Christensen et al., 2005). Therefore, we argue that it is important to distinguish between e-services supplied by public organizations and by private organizations. This means separating between the two overarching concepts (1) e-commerce/e-business, and (2) e-government. According to this logic, the application of the public prefix to the term e-service illustrates an underlying notion that public organizations inhabit certain characteristics that must be taken into account when developing and studying e-services. *Public organizations* are in this paper defined as the formal public entities that decide on and organize public administration of different sorts, e.g. state authorities, ministries, municipalities or regional authorities. *Public services* are defined as the services provided by public organisations to citizens, both collectively and invidually, either directly or by financing private providers (Christensen et. al., 2005). It is

important to acknowledge that public sector organizations are not uniform; they vary in terms of function and structure, as well as according to administrative level (i.e. local, regional and state levels). Yet, on a general level, there are certain rudimentary characteristics which we argue are important to highlight as shared by all public organizations. In this section, we choose to highlight three elementary differences between public and private organizations and will thereby add on the third perspective to our conceptualization of public e-service. We have categorized these differences as follows: (1) the public ethos, (2) lack of exit and (3) the role of the users. Note that our discussion focuses on the relationship between citizens and the government, and hence see citizens as the main users of public services. This is obviously a simplification as public services also are directed toward businesses. We perceive this paper as a point of departure in which not all ground can be covered but, nevertheless, prepared for.

4.1. The Public Ethos

The most fundamental difference between public and private organizations is the fact that public organizations, at least indirectly, work for all citizens. Public organizations are thus responsible to a publicly elected leadership, whereby the people constitute the basis for authority. Public organizations are part of a parliamentary chain of command, which is steered by a set of formal, explicit, comprehensive and stable set of rules in order to ensure compliance with political decisions (Fountain, 2001a; Peters, 2001; Christensen et al., 2005; Cordella & Willcock, 2010). This set of rules can obviously vary according to sector or public organization in terms of degree of detail or formalization. For instance, the constitutional acts, which encompass the duties of all public organizations, set a more general framework for civic freedoms and rights. In contrast, income-tax declaration involves a heavily formalized and detailed set of rules which allow less discretion. As a consequence of the obligations enshrined in the legal framework, public organizations are seen to be guided by a different logic – *the public ethos* (March & Olsen, 1995; Lundquist, 1998; Peters, 2001). The public ethos entails that the overarching aim of public organizations is to serve the public in ways that ensures the public, and hence collective, interest. Public organizations should thus embody a shared sense of responsibility for serving social justice and the common good, whereby both *economic* and *democratic values* are taken into account. Economic values are mainly founded on balancing the use of resources according to a set of economic targets and revenues, whereas democratic values are founded on the public rights and rule of law enshrined in the constitution. Both types of values presuppose each other – in order to be legitimate, public organizations have to be both democratic and efficient. Democratic values are regarded as specific to public organizations whereas economic values exist in both public and private organizations. This means that public organizations have to take into account and balance a number of sometimes contradictory and ambiguous aims (Lundquist, 1998, Christensen et al., 2005).

4.2. Lack of Exit

A second fundamental difference concerns the leeway for choosing different service suppliers. Public organizations usually operate in a *monopolized* or some sort of *compulsory situation*, where the relationship with citizens is asymmetrical (Rothstein, 2010). Observe that the asymmetrical relationship between the citizens and government as discussed here is opposite to the relationship discussed in relation to services in general, where the user of the service has the upper hand. Governments, and hence public organizations, have a number of compulsory claims on individuals that do not involve choice, e.g. arrest, taxation and conscription. Several public services (e.g. social benefit services) are also monopolized by public organizations and even when there are private options, these are often too costly for

several groups of citizens; hence, the public options become the only viable. Furthermore, even though public services are carried out in cooperation with private companies, and thus offer freedom of choice between public, private or other service providers, these providers are usually chosen by public organizations through public procurement or some other centrally steered selection of actors. Thus, public services do not take place in a free market, but rather a quasi-market where the power of the consumer is limited (Le Grand & Bartlett, 1993). Users of public services cannot 'shop around' for certain public services but are dependent on one specific authority for the services or the selection of service providers. Consequently, in contrast to services provided by private organizations on a free market, there is either a restricted *exit*-option for users of public services or a total lack of exit (Hirschman, 1970).

Furthermore, the character of public services often differs from that of private. *Welfare services*, such as elderly care and various social benefits, needs to be recognized as a particular type of public services. These are usually more complex and demand adjustment to individual situations, as contrasted to collectively supplied public services, such as street maintenance and water supply. Also, it is often not as easy to fall back on a formalized set of rules; this grants public officials a high level of discretion (Lipsky, 1980). The asymmetrical relationship between user and provider in welfare services is often very strong, e.g. in social security benefits. Citizens are in these situations dependent on public services for their livelihood; it is not a 'choice' (Blomqvist & Rothstein, 2010). In return, issues of accountability and responsibility become of more immediate importance for public organizations.

4.3. The Role of Users - Citizens, Rather than Consumers

The third difference between public and private organizations is that the user of public services, as a consequence of the public ethos and lack of exit, cannot be viewed merely as a consumer but first and foremost as a *citizen.* A citizen has certain constitutional rights which have to be ensured through rule of law and a fair distribution of social resources. In public organizations, there is a political and public character of service delivery that the concepts of customer or consumer cannot capture (Fountain, 2001b). In turn, the basis for *legitimacy* differs for public organizations. On the ideal private market, all contracts are voluntary and all actors have equal status, at least in theory. Decisions made by private organizations are legitimized by the fact that no one is forced to buy or sell; all decisions are made by individuals, based on free choice, and own responsibility. The compulsory, monopolized or quasi-market based tasks of public organizations mean that public decisions have to be justified on different grounds. In a democracy, the basis of legitimacy for public organizations involves public elections and democratic decision making processes, i.e. the parliamentary chain of command and an adherence to the rule of law. Simultaneously, the quality of public services is also decisive for how citizens judge the political system, since it is the main channel through which citizens experience the execution of political decisions (Scharpf, 1999; Blomqvist and Rothstein, 2000).

Although, both these pictures of the private and public sector are idealized, they nevertheless illustrate the different demands placed on public organizations in terms of responsiveness and equal treatment. In welfare states with universal coverage, such as the Nordic countries, citizenship entitles access to general welfare services. This can be contrasted to the Anglo-Saxon model where coverage is based on income (Esping-Andersen, 1990). However, universal coverage means that it is sometimes difficult (and sometimes unethical) to identify a well-defined target group of users as in the case of many private services (Taylor & Lips, 2008). For instance, tax declaration concern most adults with an income; a group that indeed can be very heterogeneous. Most importantly, no one can be excluded because they do not

belong to the ‘majority’ of users. Public organizations have a legal duty to ensure service delivery to citizens – services cannot be held back from citizens because there are too many customers to deal with or because of a lack of personnel or money (Aberbach & Christensen, 2005; Van Duivenboden & Lips, 2005).

In sum, the main characteristics of public, in contrast to private, organizations and services involve a different legal framework as well as logic (the public ethos); a lack of exit or restricted choice for service users, in particular for certain welfare service whereby the supplier has the upper hand; and finally, a different role of the user who as a citizen has certain rights in terms of access to services as well as protection of these rights.

5. Discussion: Public e-Services in three dimensions

In this section we return to our research questions and discuss the conceptualization of public e-services, in order to arrive at a conceptual framework. The first and second research questions, concerning the main characteristics of (electronic) services and differences between public and private services, were answered in the discussion above. Our analysis and discussion was based on the assumption that public e-services could be inspected from three different perspectives and that this approach would tell us something about the essence of public e-services. This turned out to be the case, but based on the analysis presented above we have come to the conclusion that ‘dimensions’ is a better wording than ‘perspectives’ to describe how these three parts relate to each other. The use of the perspective-metaphor implies that there is a fuzzy object that we can inspect with different sets of eyeglasses, and depending on what glasses we are wearing, we will see different things. This is a useful metaphor, but in order not to fall into the trap of omitting important insights, we would like to take this one step further and merge these three different perceptions into one, more distinguishable, frame. Therefore we have come to regard the public e-service concept as a three-sided object whose three sides are equally important to take into account and relate to each other when inspecting it. Each side implies a set of characteristics important for our understanding of public e-services and we have chosen to call these sides *dimensions* (i.e., meaning ‘aspects’ or ‘features’). In this section, we will discuss these dimensions further, and how they can be related to each other, as well as illustrate the analytical winnings of this multi-relational approach, before turning to the conceptual framework. More specifically, what issues become of instance when we highlight one dimension, albeit still relate the different dimensions to each other?

By highlighting *e-* in public e-services, it becomes clear that a public e-service is something different than just a public service mediated electronically. Public e-services usually do not involve the actual out-put, or end-product, of public policy, such as the teaching in schools or the medical treatment of a patient. Rather, public e-services can constitute the *mediation* of that service, the means through which this service is being communicated and accessed. In turn, by emphasizing the *public* prefix of public e-services, issues of availability and accessibility are placed in the foreground. When mediating public e-services, the constitutionally enshrined principles of equity and fairness in public services provision means promoting *equal access.* Public e-services have to be made available to different groups of citizens, with different needs. Public e-services thus become a matter of access to governments and governmental output, and hence, a matter of citizen rights or protection of citizen obligations.

The emphasis on *services* in public e-services highlights a number of issues with regard to (1) the duality of e-government objectives (internal vs. external objectives), and (2) against whose interests a public e-service should be evaluated. Concerning the first issue, e-services

are used in the public sector as a means of creating value for both citizens and government. In e-government policies, the value for the citizens is specifically emphasized and potential conflicts between internal and external objectives are ignored, or rather one is seen to lead to the other (Löfstedt, 2010). In practice, these objectives are not always compatible. For instance, whereas external and internal objectives of public e-services involve predominantly economic values, benefits for citizens also involve democratic values and as discussed, these values are sometimes conflicting. Thus, the duality of e-government objectives has resulted in a situation where it is not always clear what needs should guide the development of public e-services and for what part value should be created. Although both objectives should guide the development of public e-services, one or the other is likely to be more in focus. Here, we can be aided by focusing *public services* since the type of public service can give us a hint of which objective is in focus. We hypothesize that, in practice, public e-services connected to welfare services of a compulsory nature are less dependent (for its use and quality) on the views of the citizens (although, for moral and legitimacy reasons, they should be), due to lack or restricted possibilities of exit. Here, it can be argued that some public e-services are designed in a way that leads the citizen to serve the government. Little, if anything, is written on how the distinctiveness of welfare services matter for the conceptualization or implementation of public e-services, acknowledging that the introduction of e-services as a mediation of this type of public services is less likely to be citizen-oriented since the intended beneficiary of the e-service often is the government (i.e. increased internal efficiency).

Who the intended beneficiary of the public e-service is also guides evaluation and assessment of e-service quality, as it dictates whose interests the e-service should be evaluated against. Whereas private services can be evaluated against the experiences of the customer/user in combination with assessing the value created for the company, public services must be evaluated on other grounds, such as public value. Public value involves a wide spectrum of issues such as the achievement of objectives set by government programs, the achievement of outcomes that are seen as desirable by the public, the fairness and quality of service provisions and, not the least, trust in public institutions (Moore, 1995; Baptista 2005; Stoker, 2006). In addition, if the individual citizen's experience is in focus, quality becomes even more difficult to measure, especially in relation to services that are involuntary (Rhodes and Wanna, 2009). Considering the technological aspect of public e-services, the use of technology also entails that both the service production (referring to the fulfillment of the overall service objective) and mediation (referring to the interaction with the technology) can be evaluated. Quality and user adoption are often tied together. When public e-services are voluntary, user adoption must be understood in relation to the e- and service dimensions simultaneously. When people and/or businesses refrain from using e-services offered by public sector agencies, is it due to deficiencies in the interface design, or is it because the e-service is not desired? Or is it a combination? In order to be used and trusted, a public e-service needs to be both desired, as well as designed in a straightforward way.

Finally, it should be acknowledged that the dimension that has received the least attention in e-government literature is the *e-* in public e-services. The technology is typically taken for granted or discussed on a general level, e.g., in terms of maturity levels or degree of interactivity. The development of new technology is very rapid and we do not see a need for e-government researchers to supply explicit definitions of what artifacts should be considered to mediate e-services – such definitions would only supply a snapshot of the technology used at present and would soon be outdated. Stating that a definition of the technology constituting an e-service is superfluous does not, however, disclaim researchers from the task of describing the technology they study. From an information systems perspective, the lack of descriptions of the technology used to mediate public e-services is problematic. In research on

information systems development, focus mostly lies on organizational consequences of IT use. The IT artifact is often taken for granted (Orlikowski & Iacono, 2001) and several scholars promote the need to focus more on the IT artifact. The same kind of phenomenon seems to reign in e-government research as well. In several of the articles mentioned in this paper, the visions and objectives behind the e-services are emphasized as something that has great influence on design and use, but few discuss how the technology used constrains and affords use. When the technology aspect of the public e-service is ignored there is a risk of getting caught in an overly optimistic view of technology (Heeks & Bailur, 2007) as the given solution to all our problems (Markus & Robey, 1988), forgetting that technology offers both affordances and constraints (Norman, 1993) to use. Not defining the technology also makes it difficult to (1) compare e-services used at present with services used in the past and future, (2) evaluate the implementation and use of public e-services, and (3) understand the connections between e-service applications and interconnected information systems used to supply the e-service.

6. Conclusions: a conceptual framework emerges

The discussion in this article is based on a hermeneutic review and analysis of literature on e-services in the public sector, a phenomenon we have chosen to denote *public e-service*. The aim has been to discuss public e-services from an interdisciplinary perspective and propose a broad conceptual framework for comprehending public e-services. We will in this concluding section turn to the second part of this aim and present our conceptual framework, as well as propose examples for how it can be applied as a stepping stone for various research issues and analytical approaches.

Considering the multidisciplinary character of e-government research and the complexity of the e-service phenomenon, we do not believe that it is possible, or even advisable, to try to formulate one general, one-size-fits-all, definition of what a public e-service refers to. There are different needs for detail and level of abstraction of the concept depending on specific research objectives and disciplinary belonging. Based on the insights made when investigating the three key dimensions of public e-services, we do argue, however, that there is a need for researchers concerned with e-services in the e-government context to (1) do a better job of explicitly characterizing and stating what she/he considers a public e-service to be in relation to her/his research; but also to (2) see public e-services as having several dimensions and thus extend the characterization beyond a one sided outlook. This means adopting a more interdisciplinary, rather than merely multidisciplinary, outlook. These two measures are interlinked and are both of great importance if we want to increase the analytical generalizability, conceptual maturity and practical benefit of e-government research. Thus, rather than to create a general and common understanding of public e-services, our conceptual framework strives towards *structuring* the understanding of the concept and thus bringing some order to a fragmented field.

E-government research is generally practice-oriented and is hence tightly coupled with e-government implementation in practice. This close relationship between theory and practice is a prerequisite for identifying research needs and creating useful theories (Corely and Gioia, 2011). However, as e-government researchers, we must preserve this close relationship without falling into the trap of becoming overly, or prematurely, normative in order to satisfy our practice partners. When formulating normative statements for e-government practice, we must be aware of that the way we rhetorically interpret something often influences how we deal with it in practice (Røvik, 2000); implying that vague conceptualization of public e-services may lead to vague understanding thereof, and, in turn, poor advise for practice. We

must thus be aware of our interpretations before we can start give normative advice. This is not only important for the e-government practice, but also for e-government research; our interpretations must be explicitly stated in order to enable for researchers to build cumulatively on each other's work. In addition, it is our firm belief that in order to generate useful theories concerning public e-services, we must allow for the inherent complexities and contradictions of the phenomenon. This argument is in line with the emergent perspective on the relationship between technology and organizational change, as discussed by Markus and Robey (1988), in which the complexity and unpredictability of the process is emphasized.

In order to encourage a more succinct, yet multi-relational, understanding and discussion, we therefore propose a three-dimensional conceptualization of public e-services. Basically, a public e-service can be viewed with each of its dimensions in focus, meaning that it can be viewed as being (1) a *service*, (2) *electronic*, and (3) *public* (in contrast to being private). Each dimension can be put in the foreground separately or in combination with (an)other dimension(s) (e.g., public e-, e-service, public service, and so on), but all dimensions should, we argue, always be acknowledged to some extent.

Adopting a three dimensional view on public e-services unveils a complex phenomenon but also facilitates a more distinct and multi-relational way of conceptualizing the term and lays the foundation of our conceptual framework. Against the earlier discussion on how public e-services can be understood, table 1 presents the main characteristics of public e-services. By relating these characteristics to each other, they can be used for addressing a multitude of issues, depending on which dimension is put in the foreground. Note that the issues presented here are only illustrative issues for consideration and can be expanded with further in-depth investigations and combination of the dimensions.

Depending on the dimension(s) in focus, the framework can be used as a starting point for a variety of theoretical approaches; investigating issues related to e.g., policy implementation theories, agenda-setting, power structures, user adoption, interoperability, and e-government stakeholders. By using a three dimensional and multi-relational perspective, in-depth investigations of the different dimensions can contribute with pieces to a totality, rather than end up as isolated islands where researchers do not communicate with, or talk past, each other. We perceive this work as an important step towards systematically capturing the complexity of the field and thereby disentangling the concept of public e-services.

The above discussion also signifies the practical importance of viewing public e-services in three dimensions. Practitioners, even more so than researchers, should be aware of all three dimensions. Whereas researchers can choose to focus one or two dimensions more in-depth, practitioners ought to opt for a broader view including all dimensions simultaneously, rather than an in-depth view of each dimension of the framework. In fact, the latter is what currently is being practiced, for instance, the implications of the public context tend to be neglected when private solutions and actors dominate the field of public e-services. Similarly, the interpretation of the term service tends to focus on e-services as an end-product rather than a process and thus underestimate the complexity of the phenomenon. Neglecting one or more dimension of the concept can have consequences for how public e-services are designed and provided, and thus affect both the internal organization of governments and the citizens' experiences thereof.

Dimension	Main characteristics	Examples of issues for consideration in the conceptualization of public e-services
Public (Services and Organizations)	**The public ethos** - Need to ensure comprehensive legal framework with different degrees of discretion. - Need to balance democratic and economic values, (accomodate principles of equality, responsiveness, availability and social inclusion, as well as cost-efficiency). - Need to ensurement legitimacy and accountability through democratic decision making, rule of law and efficient out-put.	- Availability and fairness of public service provision, e.g. how is the public e-service being provided? - Voluntary vs. involuntary public services, e.g. who is the public e-service serving? - Economic vs. democratic values, e.g. what aims do the public e-service serve?
	Lack of exit - Need to balance asymmetrical relationship with citizen, especially in monopolized or compulsorary situations (legitimacy not based on choice)	
	Users as citizens, rather than consumers - Need to ensure individual and political rights and obligations of citizenship. - Need to ensure services for all citizens (accommodate heterogeneity)	
e-	**A technical artifact, constituted of** - Internet-based technology - Some degree of interaction - Connections to other information systems, e.g., back-office systems	- Design and user related issues: e.g., o What are the users' experiences of interacting with the technology? o Why are public e-services adopted/not adopted by users? - Interoperability issues: e.g., to what other systems is the e-service connected? Are these systems interoperable?
	Should be evaluated in relation to its intended use and users, which implies that - A focus on users of technology is necessary - Accessibility and usability are important aspects	
Services	**Service as a process** - Must be perceived as a process in which value is co-created by consumer and supplier	- Value creation: e.g., whose interests are served? For whom is value created? - Power symmetries: Asymmetrical relationships between user and supplier? - In what manner is the service performed? What kind of information is used/exchanged? Is the exchange reciprocal?
	Service quality - Must be assessed based on consumer's experience of the service	

Table 1. Characteristics and Issues for Consideration in the Conceptualization of Public E-Services.

7. Limitations and Future Research

In this paper we have investigated the meaning of public e-service by unpacking the concept and discussing its parts in different constellations. We have chosen to focus what we perceive are the key dimensions for an initial understanding of the concept. We have not discussed the meaning of 'e-' in depth. We have also excluded the discussion on technology in the public

sector. We stated initially that e-services are connected to back-office technology in the supplying organization. The integration with back-office technologies means that an e-service can be perceived as having both external and internal components, with different users and objectives. This further implies that it can be difficult to determine where to draw the line between an e-service and the information systems to which it is connected. We have intentionally left this discussion out in this paper. To conclude, we have consciously chosen a broad perspective, in contrast to an in-depth one, in order to highlight and raise awareness of the need to combine the different dimensions. In order to make this broad conceptualization, and thus the framework, even more fruitful, we challenge ourselves and our fellow researchers to investigate the dimensions further.

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