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Modes of collaboration and expected benefits of inter-organizational E-government initiatives: A multi-case study

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A B S T R A C T

Collaboration among governmental organizations has been regarded as essential for realizing benefits of e-government investments. Inter-organizational collaboration on e-government can appear in several forms and can aim at varying types of benefits. However, few if any studies have delved deeper into analysis of how chosen forms of collaboration might relate to targeted e-government benefits. This article studies five cases of how contemporary acquisitions and implementations of digital archiving systems have been launched through five modes of collaboration (autonomous, standardization, framework agreement, consortium, and central service organization) among organizations in the Swedish public sector. Our analysis reveals that whereas the target system, digital archive in our case, stays similar, expected benefits vary. The article contributes by elaborating the concept of mode of collaboration that identifies typical benefits justifying a choice of a particular collaboration form on e-government development and describing the five modes in more detail based on a multi-case study. The article also outlines fourteen related propositions of the correlation between the collaboration modes and expected benefits to be verified by further research.

1. Introduction

Collaboration among organizations in the public sector has been regarded as important for realizing the objectives and benefits from e-government initiatives (Flak, Solli-Saether & Straub, 2015; Gil-Garcia, 2012; Reddick, 2008). Such expected benefits include improved efficiency, effectiveness, service quality, economy of scale of IT investments, information integration, and interoperability across government agencies (Flak & Solli-Saether, 2013; Gil-Garcia, 2012; Huxham, Vangen, Huxham, & Eden, 2000; Layne & Lee, 2001; Moon, 2002). The need for public organizations to collaborate is not new. However, the field of e-government has, over the years, continued to call for more research on inter-organizational collaboration and its relation to value creation (e.g., Allen, Juilett, Paquet & Roy, 2005; Luna-Reyes, Picazo-Vela, Luna & Gil-Garcia, 2016). Allen et al., (2005) point out that due to opportunities to connect organizations through emerging information technology, governments need better policies for enhanced coordination and efficiency, process alignment, and internal and external collaboration. The need for collaboration on e-government thus transcends the boundaries of a single organization and governments should collaborate with other governments, private businesses, and citizens (Christiansson, Axelsson, & Melin, 2015; Chun, Luna-Reyes, & Sandoval-Almazán, 2012).

E-government collaboration is, however, challenging (Gil-Garcia, 2012) and the collaboration initiatives often fail (Bryson, Crosby, & Stone, 2006). Several e-government initiatives have provided little impact and the envisaged benefits have remained unrealized (Millard, 2010). Expectations on outcomes and the forms for collaboration often vary between participants, and the costs of coordination may outweigh the benefits (Huxham, Vangen, Huxham, & Eden, 2000).

We adhere to a stream of research, which argues that potential benefits of IT investments need to be systematically managed in order to secure their realization (Remenyi, Sherwood-Smith & White, 1997; Ward & Daniel, 2006; Ward, Taylor & Bond, 1996). In a few countries, such as Sweden, governmental and municipal organizations have traditionally been co-operating only on voluntary basis, which has hindered realization of benefits that could have been reached through more regulated collaboration (Grönlund, 2009). While the benefits realization concept and several related methods were introduced in the mid-1990s, empirical studies, especially in the public sector, have remained rare (Ashurst, Doherty & Peppard, 2008; Päivärinta & Dertz, 2008; Flak, Dertz, Jansen, Krogstie, Spjelkavik & Ølnes, 2009). Larger adoption of methods and practices for benefits realization in the public sector has thus emerged only recently, e.g. in Norway (Flak & Solli-Saether, 2013), Denmark (Hertzum & Simonsen, 2011), and Sweden (E-

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delegationen, 2014). Among the reported cases, (e.g. Flak, 2012), the main focus has been at the level of one organization. There has been an increasing focus on understanding hindrances and incentives for inter-organizational collaboration on e-government initiatives (Gil-Garcia, 2012) and initial speculations on how some collaboration dimensions, such as voluntary versus mandatory (Grönlund, 2009), may impact on expected benefits. However, forms of e-government collaboration and the outcomes that these forms can yield have remained under-researched (cf. also Luna-Reyes, Picazo-Vela, Luna, & Gil-Garcia, 2016).

Recently, several Swedish governmental and municipal organizations have started to collaborate on acquisition and development of systems and services for digital archiving. For example, 117 Swedish government agencies have started to invest approximately 60 million Euro in a shared service for digital archiving (Rydberg, 2014). This has been compared to 140 to 200 million Euro in estimated costs if each government agency would implement digital archives independently (ibid.). Similar initiatives have also started in the municipal sector (Päiväranta, Samuelsson, Jonsson & Swensson, 2014). Hellsten, Alanne, Pekkola and Tuunanen (2016) stress that there is a shortage of research on information system acquisition in the public sector. Due to this emerging opportunity to study multiple acquisition cases on one particular type of e-government system, while varying forms of collaboration take place, this article aims at examining the question whether and how the selected mode of collaboration (or non-collaboration) affects the expected benefits from the initiatives. Simultaneously, expected benefits could be used to justify a specific mode of collaboration, see Fig. 1. This article contributes by identifying five modes of inter-organizational collaboration, involving public organizations as well as private companies, on e-government investments that relate to an observed variation in preferences for expected benefits.

The article is structured as follows. The next section sets up our research background related to inter-organizational collaboration for e-government. Thereafter the research method is described and then we present the five identified modes of collaboration. Our analysis results in observations on how modes of collaboration have implications on expected benefits and their realization. Based on the findings we also present propositions for verifiable positions on e-government collaboration modes. The article ends with a discussion, conclusions and suggestions for future research.

2. E-government collaboration on systems acquisition and implementation

The purpose of collaboration is to achieve advantages that are difficult or impossible to be reached by one actor alone (Huxham & Macdonald, 1992). Hudson, Hardy, Henwood & Wistow (1999) consider inter-organizational collaboration in the public sector as a self-evident virtue of advanced societies. Chun et al. (2012, p. 6) define collaboration as “a process or a set of activities in which two or more agents work together to achieve shared goals”.

The collaboration objectives are often instrumental, for example, to conduct a particular project for reaching the above-mentioned types of benefits: efficiency, effectiveness, service quality, economy of scale of IT investments, information integration, and interoperability. Huxham et al. (2000) point out that collaboration also can have ideological

intentions per se, such as participation and empowerment. Ideological purposes are, for instance, often expressed as political benefits in open government reforms (Banisar, 2005; Obama, 2009). The effects of collaboration are, however, claimed to increase with complexity, i.e., complex policies are more effectively implemented if agencies collaborate while easier tasks are better handled without inter-organizational collaboration (Lundin, 2007).

However, collaboration is found to be difficult and failures are common (Bryson, Crosby, & Stone, 2006). Participants may often have different expectations on the goals and forms of collaboration and the costs of coordination may outweigh the benefits of collaboration (Huxham et al., 2000). To succeed with collaboration, trust between partners needs to be built over time (Vangen & Huxham, 2003) where the collaborative capacity indicates how big change a relationship can bear without the partners losing trust in the relationship (Hudson, Hardy, Henwood, & Wistow, 1999).

2.1. Inter-organizational collaboration on e-government systems

Collaboration in the public sector has been studied within several research fields using a variety of concepts: collaborative public management (e.g. Agranoff & McGuire, 2004; O'Leary & Vaj, 2012); collaborative governance (e.g., Ansell & Gash, 2008; Emerson, Nabatchi, & Balogh, 2012); joined up government (e.g., Klievink & Janssen, 2009; Perri 6., 2004); networked government (e.g., Eggers & Goldsmith, 2003); the whole of government approach (e.g., Christensen & Lægreid, 2007; Ojo, Janowski, & Estevez, 2011); and collaborative e-government (e.g., Chun et al., 2012; Gil-García, Chengalur-Smith, and Duchessi, 2007). However, collaborative e-government distinguishes itself from the other concepts by having a clearer focus on information and communication technology.

Chun et al. (2012) note that e-government collaboration can be interaction based, where collaboration can occur within and between governments, and between governments, businesses and citizens. Collaboration can also be content based (e.g. information sharing and resource sharing) and viewed from a temporal perspective, short term or long term (Chun et al., 2012). This study focuses on inter-organizational collaboration on information systems acquisition and implementation for e-government, especially, in our case, digital preservation systems.

The importance of inter-organizational collaboration is noticed in maturity models describing the development of e-government (e.g. Australian National Audit Office, 1999; Layne & Lee, 2001), where the most mature stages involve horizontal collaboration between organizational levels within a public organization and vertical collaboration between public organizations.

2.2. Contextual factors affecting collaborative e-government initiatives

E-government systems are affected by the social context they are embedded in (cf. Avgerou, 2001; Fountain, 2001). Studies of collaborative e-government initiatives have revealed types of contextual factors that affect the expected benefits, see Fig. 2. Yang and Maxwell's (2011) literature review identified three types of factors within the field of governmental information sharing: organizational and managerial, technological, and political and policy. These three categories build on previous work by Gil-Garcia and Pardo (2005) and were subsequently used by Gil-Garcia et al. (2007) in a study of six government information sharing projects. They found that, in addition to the three categories, experiences from previous collaboration projects and pre-existing relationships have an impact on expected benefits. Luna-Reyes and Gil-Garcia (2011) in a study of the e-Mexico program, found the existence of previous networks to be important for expected benefits. Avgerou (2001), in studies of e-government reform at Cyprus, highlights the impact of different layers of context, such as national and local. For example, in Western European type of democracies there are

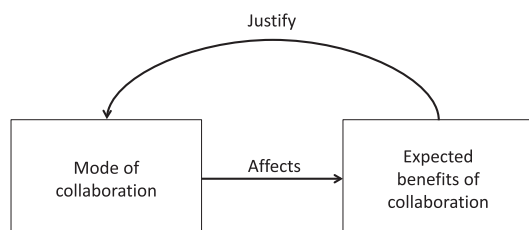


Fig. 1. The relationships between mode of collaboration and benefit.

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