Core Aspects for Value Co-Creation in Public Sector

Elin Uppström  
Department of Computer and Systems Science, Stockholm University  
elinu@dsv.su.se

Carl-Mikael Lönn  
Department of Computer and Systems Science, Stockholm University  
cml@dsv.su.se

Abstract

There is a great potential for creating public value by engaging and getting citizens to collaborate together with governments in public activities. E-government and open government enable citizens and governments to collaborate and (co-)create value that benefit both parties, but there are factors inhibiting value to be co-created and realized in the public sector. Research on value co-creation has been mainly focused on the private sector and on positive outcomes and hence it is not enough knowledge of how to make value co-creation successful in the public sector. Drawing from previous research and data gathered during the design of open government services in two different research projects in Sweden, this research proposes core aspects for public value co-creation and identifies inhibitors for its realization. This paper thereby expands the knowledge on value co-creation and depicts that public value co-creation connects the fields of value co-creation, e-government and open government.

Keywords

Co-creation, open government, inhibitors, core aspects

Introduction

There is an ongoing shift in the mindset of businesses in the private sector were private businesses are moving from viewing customers solely as end-users to inviting and engaging customers to co-create value. The central idea of co-creation of value is that all involved parties receive value from the joint efforts. For instance Apples success depends in part on their embrace of co-creation principles by inviting customers to develop and publish apps on their platform and sell them through their marketplace (App Store). Customers thereby contribute to Apples value offering as the customer can receive values such as recognition and economic compensation.

In a similar fashion, the engagement of citizens in public sector activities will form the future of public sector reforms and is the real potential offered by e-government (Bourgon, 2008). Engaged citizens create the opportunity to harness collective intelligence within the public sector, which could generate greater value from government initiative (Wise et al., 2012). Having digitally involved citizens will for example provide economic benefits for both private companies and governments (Digidel, 2013) and through engagement citizen can receive increased service value through improved service quality. Thus there is a great potential for creating public value by engaging and collaborating with citizens in public activities.

The mean to get citizens engaged is for governments to become more open i.e. transparent, participative and collaborative (Harrison et al., 2012) and through e-government services such as e- and m-services, make it feasible to integrate a citizens own recourses (e.g. IT-skills and access), with resources provided by the government, for example a website (Åkesson, 2011). E-government services are thus an enabler and an arena for co-creation by allowing for greater utilization of resources than does traditional government (Åkesson, 2011).
However, we don’t yet understand enough how to make value co-creation successful in the public sector i.e. how to co-create public value. “Governments have to learn to promote innovation and create public value not through direct intervention, but by leveraging and enabling the best capacities of citizens to be deployed and fully realized.” (Osimo et al., 2010, pp.4). Grönroos and Ravald (2011) state that research is needed on issues related to co-creation of value, and new insights, approaches, techniques and theories are required (Ostrom et al., 2010). Previous research on value co-creation is also mostly focused on positive outcomes (Åkesson, 2011) and biased towards quantitative and economic measurements (Sarker et al., 2012). Further, “in contrast to the business sector, the public sector has to increase not only economic values but also social and democratic ones” (Flak et al., 2009, p. 221).

This paper responds to this need by identifying important building block (core aspects) for public value co-creation and hindrances for its realization. This is done by analysis of prior research and through analysis of data gathered during the design of open government services in two different research projects. This paper contributes with initial theory for public value co-creation by proposing core aspects and highlighting inhibitors for its realization. It depicts that public value co-creation bridges and connects the fields of value co-creation, e-government and open government. For practitioners this paper contributes with highlighting aspects that needs to be taken into account to enable and realize public value co-creation in e-government initiatives.

This paper proceeds as follows; after the introduction an extended background related to e-government, open government and value co-creation is presented. Thereafter the research method is described followed by a presentation of the public value co-creation aspects and inhibitors found in literature and the research projects. Then the core aspects are then discussed and the paper ends with conclusions and suggestions for future research.

**Extended background**

**E-government**

E-government focuses on transforming public administration structures and processes in order to increase efficiency and effectiveness (Beynon-Davies, 2005) and also to improve the information and quality of services to citizens (Moon, 2002). Information and communication technology is seen as the enabler for this transformation (Beynon-Davies, 2005) where one important way to streamline the administration and increase the quality of public services is by providing services as of e- and m-services. E-services provide 24/7 accessibility to public services, offer self-service capabilities to citizens and increase transparency between citizens and municipalities. A common criticism of e-government projects is that they often focus too much on internal operations, neglecting the benefits and constraints represented by other actors, such as citizens and private companies (Goldkuhl, 2006). According to Åkesson (2011), e-government research mostly focuses on efficiency, integration, change, management, security, customer focus, and strategy. The citizen adoption of e-government services has also been less than satisfactory in most countries (Carter & Weerakkody, 2008). Reports from the OECD (2009) and by Baumgarten and Chui (2009) for McKinsey & Company, further confirms this and notes that although a great deal of money and effort is invested in pushing e-government forward, the rate of adoption and usage of e-government services by citizens seems to have come to a standstill. The OECD countries seem to be stuck in a static form of e-government where the acceptance rate is low and initiatives are costly and often bound to fail despite the fact that the number of e-services offered from the governmental side has multiplied (Millard, 2010).

In Layne and Lee’s (2001) maturity model for e-government four stage model of e-government is described. A government in the first stage, called “catalogue”, has on-line presence and provides government information and downloadable forms to citizens. The second state, “transaction”, represents a government agency that provides interfaces for citizens to interact with governmental (e.g. e-services) back-end systems. At the third stage, “vertical integration” is developed which means that different levels of government are integrated to support citizens. The fourth and most mature stage is where “horizontal integration” is in place, which means integration across different functions and services. Horizontal integration is also connected to value co-creation by Åkesson (2011). She argues that horizontal integration is an important aspect to create functional collaborations between government and citizens and that it is critical for value co-creation in an e-government setting. By integrating resources for
example shared computer systems, an initial step towards horizontal integration is accomplished (Åkesson, 2011).

**Open Government**

Public demands on governments worldwide to become more open are rising (OECD, 2005). Open government, according to the OECD (2005), consists of three main building blocks; transparency, accessibility and responsiveness. This can be compared with the open government initiative in the US, which identifies transparency, participation and collaboration as the three main principles of open government (Obama, 2009). Transparency includes transparency in data and information as well as in operations and decisions (Gavelin et al., 2009; Nam, 2011). Participation encourages citizens to provide ideas, knowledge and expertise to the government and collaboration should actively promote citizen engagement (Obama, 2009). Responsiveness is defined as being open and responsive to new ideas, demands and needs, while accessibility is giving easy access to services and information (Gavelin et al., 2009). The main difference between the US and the EU views on open government is that the US emphasizes collaboration while EU limits its demands to accessibility of services and information. The differences seem to imply a greater focus on citizen participation in the US. The ultimate goal, a state where information flows freely both to and from governments through a multitude of different channels, is the same.

ICT can support open government (Bertot et al., 2010) and consequently offer means to improve citizen service (Woched, Truffet & Juell-Skielse, 2011). Transparency can be supported through sharing of information with citizens through the Internet. Government services can be made accessible by anyone, anytime, over the Internet and anytime, anywhere, through mobile devices (Ferro & Molinari, 2010; Millard, 2010). Responsiveness can be increased through immediate answers to citizens on applications and requests where service lead times are shortened through digital and automated handling of administrative processes. Collaboration and participation are strongly supported by social networking technology, namely web 2.0 technologies.

Web 2.0 can be described as social computing (Punie, Misuraca, & Osimo, 2009) or as a web technology that encourages individuals to participate in content creation through Internet (Chun, 2010). Web 2.0 technologies can also have a transformational effect on governments to promote real civic engagement (Mergel et al., 2009 & Traunmüller & Wimmer 2009). Crowdsourcing or citizen-sourcing (Lukensmeyer & Torres, 2008) is also acknowledged as a product of web 2.0 technologies that enables open government (Dutton, 2010; Hilgers & Ihl, 2010; Nam, 2011).

**Value Co-Creation**

Current research in the area of co-creation of value builds to a large extent on work by Prahalad and Ramaswamy (2004). In their view the customer plays an important role in value creation thus co-creating value together with the producer. Other marketing research introducing the service dominant (S-D) logic view agrees and states that the customer is always a co-creator of value (Lush & Vargo, 2006). In a value-creating process stakeholders are merged into an integrated conversational process where the participants are working within each other’s processes. Thereby the stakeholders have the opportunity to take an active part in coordinating actions, learning and influencing each other directly (Grönroos, 2011). These types of interactions require deep engagement and the ability and willingness to act and learn between two parties (Prahalad & Ramaswamy, 2004).

In the private sector, there are several examples of service systems (co-) creating significant value, e.g. Apple and Salesforce. In these systems values are not exchanged in a traditional way where a consumer pays a provider for a specific tangible product, instead value is co-created and the consumer plays an important part in the creation process while all involved parties receive value from the joint efforts. Companies are leveraging their online presence to go beyond the borders of the company to source innovation and reinvent their businesses (Chesbrough & Teece, 2002; Van Baalen et al., 2005; Markman, et al., 2008). Crowdsourcing, “wisdom of crowds” and “wikinomics” is concepts that have served to explain the decentralized innovation channels emerging in some of the world’s leading corporations and not-for-profit organizations (Malone et al., 2010). The appliance of these different concepts all shares the potential of co-creation of value for the engaging stakeholders, especially when enabled by Internet
technology (Benkler, 2006; Wise et al., 2012). Thus one of the main facilitators for co-creation in the private sector has been Internet technology.

The situation in the public sector is however different and examples of value co-creation initiatives are not easily found. Research on value co-creation in the public sector is scarce. This can be regarded as somewhat strange since there is a significant potential for value creation and co-creation within this context (Hilgers & Ihl, 2010). According to Edvardsson et al. (2011) there is a need to develop a new, deeper understanding of the basic assumptions surrounding the notion of services within the service dominant (S-D) logic, among them the view of service exchange and value co-creation. A response to this need is an inter-disciplinary academic discourse (service science) that views the production and consumption of services as service systems aiming for co-creation of value using involved resources (e.g. Vargo et al., 2008). In these systems different values are created for the included actors and co-created value is generated over and above what would have been possible in the absence of the relationship between the stakeholders. Other researchers have noted the need for a systems perspective and thinking when studying value co-creation (e.g. Vargo et al., 2008; Ng et al., 2009; Ng & Ding, 2010). According to Åkesson (2011), service system theory is also applicable to e-government. The technology part of e-government represents ways of working, while people are the operand resources worked upon. It is unclear, however, how the service system is supposed to work (ibid).

Åkesson (2011) presents an empirical study on value co-creation in the public sector setting and leans heavily on service dominant theories to “explain how value is co-created by addressing the customer-employee role constellations during direct interaction” (Åkesson, 2011, p. 46). Findings include a three-factor model illustrating that treating citizens as operand resources, horizontal integration, and awareness of the various roles of customers and employees, can enact and facilitate value co-creation. Åkesson are also influenced by another theoretical perspective to explain and investigate value co-creation, i.e. the resource based view (RBV) where companies can combine and exchange assets; resources and knowledge, thus creating capabilities that expand their complementary resources or create new sources of value (Arnould, 2008).

Method

A directed content analysis approach where used in this research. When performing qualitative content analysis large amounts of text is classified into an efficient number of categories, these can be explicit or inferred but should represent similar meanings (Weber, 1990). The goal of content analysis is to get an understanding and gain knowledge of the “phenomenon under study” (Downe-Wamboldt, 1992, p. 314) in this case hindrance factors (inhibitors) for utilizing co-creation to produce value in the public sector. Directed content analysis is appropriate when “prior research exists about a phenomenon that is incomplete or would benefit from further description” (Hsieh & Shannon, 2005, p. 1281). In directed content analysis the research can identify initial coding categories through previous research (Potter & Levine-Donnerstein, 1999). The predetermined categories are then used to analyze and code the content (Hsieh & Shannon, 2005). In this research, first e-government, open government and value co-creation inhibitors where identified through literature reviews by using guidelines from the systematic literature review method according to Kitchenham (2004). The identified inhibitors where used to define initial categories, i.e. initial core aspects for public value co-creation. Then a secondary analysis of qualitative data from two different research projects has been performed to consolidate the core aspects for public value co-creation. Both projects has been carried out in collaboration with Swedish municipalities and the prominent methodological approach utilized in both research projects were design science according to Hevner et al. (2004) and Peffers et al. (2007). In the first project, named open social e-service, artifacts in form of e-services has been developed and in the second project, named Munizapp, an artifact in form of an m-service was developed. Data was collected during the research projects by utilizing different research methods, mainly qualitative survey research in the form of focus group interviews (Bhattacherjee, 2012). In total six different municipalities have actively participated in the projects and more that 50 persons have participated in interviews during the data collection. Also citizens and private IT vendors have participated and contributed in the projects. Findings from the projects have been communicated in previous research (Wohed et al., 2011; Helfrich, 2011; Juell-Skielse & Wohed, 2010; Juell-Skielse, et al., 2011; Lönn, et al., 2012; Uppström, & Nilsson 2012; Uppström, & Lönn 2013; Lönn, &
These articles provide a thorough description of the data collection and designed artifacts.

The authors were active participants in the primary data collection during both research projects. The main concern when performing secondary analysis i.e. that the researcher doing the secondary analysis might not have the required contextual knowledge about the data collection (Seale, 2010) is thereby addressed. Another disadvantage of secondary analysis is the evaluation of the quality of the secondary data when the researcher has no insight into the process and the research rigor of the data collection is also void. Magnusson (2010) argues that when the researcher performing the secondary analysis have participated in planning, scheduling and data collection it leads to increased interpretive ability; which is the case in this research. Type of data analyzed in this research and its source is depicted in table one.

<table>
<thead>
<tr>
<th>Type of data</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>Project report, two research paper (Juell-Skielse, et al., 2011; Lönn, et al., 2012), documentation from user tests, documentation from project interviews, requirements specification</td>
<td>Project, open social e-services</td>
</tr>
<tr>
<td>Documentation from interviews with municipalities, requirements specification, documentation from interviews with citizens, project meeting notes, five research papers (Uppström, &amp; Nilsson 2012; Uppström, &amp; Lönn 2013; Lönn &amp; Uppström, 2013a; Lönn &amp; Uppström, 2013b; Lönn, Nilsson, &amp; Uppström, 2015)</td>
<td>Project, Munizapp</td>
</tr>
</tbody>
</table>

Table 1. Data sources for secondary analysis

Results

Because of lack of space we have focused the results from the literature review on capturing inhibitors in the form of categories of inhibitors found in previous studies. These studies have investigated and categorized inhibitors, challenges, barriers or other hindrance factors through extensive literature studies.

**E-government Inhibitors**

A comprehensive examination of literature on e-government challenges is used as a basis to analyze the extent of IT-related research is mirrored in practitioners guidelines for e-government in US and Canada has been made by Gil-García and Pardo (2005). The authors categorize e-government challenges into five categories: (i) information and data, (ii) information technology, (iii) organizational and managerial (iv), legal and regulatory and (v) institutional and environmental. Challenges related to information and data primarily concern the quality of data and information, which is an important aspect of e-government. Information technology challenges relate to ease of use of technology as well as operability, since the IT environment of many governments is often old and complex (Gil-García & Pardo, 2005). The organizational and managerial challenges deal with the ability to manage e-government initiatives. Examples of challenges in this category are resistance to change, different goals and lack of alignment (Gil-García & Pardo, 2005). The legal and regulatory category refers to how governments are forced to adhere to a number of restrictive laws and regulations, which limits their acting space. The institutional and environmental challenges deals with, for example, autonomy, privacy and political pressures (ibid.).

Layne and Lee (2001) also put forward challenges and attach them to the different stages of e-government. The challenges are described as mainly technological and organizational challenges. Also easy access for everyone and privacy and confidentiality issues as well as citizen-centric change must be taken into account during e-government development (Layne & Lee, 2001). Notable is that the found challenges within previous research mainly are identified in a US and Canadian context which might differ compared to Sweden and EU.
Open Government Inhibitors

A number of challenges for governments to reach the desired state of openness have been stated by Chun et al. (2010) and Meijer et al. (2012). Chun et al. (2010) raise a number of research challenges that need to be addressed in order to advance the open government initiative. The main challenges relate to the difficulties in how to analyze, share, search and manage and ensure the quality of data gathered from web 2.0 technologies such as social media and crowdsourcing. Also the measuring of the value of collaborative and participatory initiatives for the government, as well as integration issues, is included in the list.

Strong regulations on information flow (Mergel et al., 2009) and bureaucratic constraints within governments are another challenge (Bannister, 2001; Mergel et al., 2009). Several authors (e.g. Galvin, 1994; Hodge, 2006; Boyd & Ellison, 2007; Dawes, 2010; Millard, 2010; Parycek & Sachs, 2010; van den Broek et al., 2010) have identified tensions between openness and the protection of civil rights when governments increase openness and transparency as inhibiting open government. The digital divide is also an issue governments face when using ICT to facilitate openness (e.g. Romsdahl, 2005; Molinari, 2010). Fear of losing control when opening up governments, is recognized by Molinari (2010) as a challenge, together with the difficulties in getting government agencies to collaborate with each other – which was also noted by Bardach (1998).

Molinari (2010) point out that new collaborative initiatives using ICT might create a heavier workload for government officials and therefore they may meet with resistance from public organizations. Difficulties in getting government officials to put trust in external resources have also been noted in one of the few empirical investigations found (Cottica & Bianco, 2010). Millard (2010) highlights issues with trust in governments. Legislation issues can also work as a hurdle against open government initiatives, according to van den Broek et al. (2010) among others. The World Economic Forum (WEF) identified several organizational challenges, among them that civil service systems in many countries are “Traditionally structured, rigid, inward-looking and based on out-dated competencies” (WEF, 2011, p.14). Problems in how public organizations are divided into silos that jealously keep information and knowledge from spreading within organizations; with management based on out-dated principles that is either protective or controlling is also recognized (WEF, 2011). This view received support from Bannister (2001) who points out that the public sector faces challenges that include cultural, structural, resource and technical aspects, together with a tradition of isolated initiatives that are not interrelated.

Value Co-Creation Inhibitors

Sarker et al. (2012) claim to be the first to open the black box of value co-creation and to reveal the enablers and inhibitors that influence value co-creation. The main enablers identified are; (i) self reinforcing mechanisms, (ii) contractual agreements, and (iii) different types of collective IT strengths. Identified inhibitors consist of (i) power imbalances and (ii) conflicts of interest between partners. Their study also emphasizes the importance of ICT as an enabler of value co-creation. The context of the research is an ERP ecosystem consisting of a large ERP vendor and its partners, i.e. a private business context, the authors were unable to find co-creation aspects identified within the public sector.

Value co-creation inhibitors are not explicitly mentioned in previous research within the public sector, however, Kearns (2004) identifies barriers for delivering value through e-government and categorize them into four categories; (i) strategic policy framework, including, change management problems, too much focus on cost reduction and not providing incentives for public servants, (ii) insufficient effort to reward innovation, (iii) insufficient powers at the center of government and (iv) the belief that government should be the sole provider of public services. Castelnovo and Simonetta (2007) evaluate two Italian e-government initiatives using public value and conclude that to achieve the result of fostering inter-municipal collaboration, it is not enough to implement policies that are angled towards supporting technological innovation. Instead a model that supports and combines processes of both technological and organizational innovation is needed to actually transform local government in Italy.

Results from research projects

Public value co-creation inhibitors found in the secondary analysis of data from the two research projects are depicted in table two. The inhibitors found are sorted in the core aspects of public value co-creation.
<table>
<thead>
<tr>
<th>Category</th>
<th>Inhibitor</th>
</tr>
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<tbody>
<tr>
<td>Technical</td>
<td>Available information systems impose time consuming and functionally organized work processes (Open social e-services).</td>
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<tr>
<td></td>
<td>Conflicting requirements from municipalities and citizens regarding the functional design of the app (Munizapp).</td>
</tr>
<tr>
<td></td>
<td>Integration towards existing systems (Munizapp).</td>
</tr>
<tr>
<td></td>
<td>Lack of business process management software to support the work processes (Open social e-services).</td>
</tr>
<tr>
<td></td>
<td>Lack of effective management of rules (Open social e-services).</td>
</tr>
<tr>
<td></td>
<td>Lack of software support that enables the use of executable processes (Open social e-services).</td>
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<tr>
<td></td>
<td>Low degree of process innovation (Open social e-services).</td>
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<tr>
<td></td>
<td>Old legacy systems an obstacle in making the social services enabled for e-government (Open social e-services).</td>
</tr>
<tr>
<td></td>
<td>Technological incompatibility with new demands (Open social e-services).</td>
</tr>
<tr>
<td>Organizational</td>
<td>A consciousness within municipalities about not being ready to change (Munizapp).</td>
</tr>
<tr>
<td></td>
<td>Difficult to get an understanding of the software support that a business process management system offers to a local government (Open social e-services).</td>
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<tr>
<td></td>
<td>Fear of receiving a large number of rubbish issues and dogmatist (Munizapp).</td>
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<tr>
<td></td>
<td>Fear of how to handle a large amount of issues from new groups of citizens (Munizapp).</td>
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<td></td>
<td>Fear of publishing anything personal or sensitive (Munizapp).</td>
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<tr>
<td></td>
<td>Municipalities are not committed to openness (Munizapp).</td>
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<tr>
<td></td>
<td>Municipalities do not consider themselves as having the capability to be responsive towards citizens (Munizapp).</td>
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<tr>
<td></td>
<td>No simple ways for citizens to communicate with the municipality. (Munizapp).</td>
</tr>
<tr>
<td></td>
<td>Old IT systems work as a hurdle against the understanding of how IT can be a support for local government (Open social e-services).</td>
</tr>
<tr>
<td></td>
<td>Resistance to change within municipalities (Munizapp).</td>
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<tr>
<td></td>
<td>Lack of research collaboration (Open social e-services).</td>
</tr>
<tr>
<td>Service Value</td>
<td>Lock-in relationship with suppliers of IT systems (Open social e-services).</td>
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<td></td>
<td>Conflicting interests between stakeholders in the project (Open social e-services).</td>
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<tr>
<td></td>
<td>Difficult to visualize the value provided by the technical platform itself (Munizapp).</td>
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<td></td>
<td>Challenging to express “the right” non-monetary value (Munizapp).</td>
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<tr>
<td></td>
<td>Difficult to visualize and model the facilitating principle from IT to co-create value. (Munizapp).</td>
</tr>
<tr>
<td>Compliance</td>
<td>Restricting legal requirements (Open social e-services).</td>
</tr>
<tr>
<td></td>
<td>Lack of distinct legal criteria for automated decision making (Open social e-services).</td>
</tr>
<tr>
<td></td>
<td>Conflicts regarding the collaborative and transparency features and the need to protect the privacy of citizens (Munizapp).</td>
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<td></td>
<td>No open government policy design (Munizapp).</td>
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<td></td>
<td>Fear of excluding parts of the population (Munizapp).</td>
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<td></td>
<td>Legal requirements are shifting with new elections every fourth year (Munizapp).</td>
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</tbody>
</table>
Table 2. Inhibitors identified in the research projects

Proposing Core Aspects for Public Sector Value Co-Creation

The technical aspect stem from technically related issues in e-government and open government literature. In the analysis of data from the research project several technical issues related to the realization of public value co-creation were identified. These issues are mainly concerning old technical platforms present at government, integration issues and lack of support for process innovation. ICT are mostly viewed in a positive light and as a facilitator for change with the exception of the fear of how the technology might jeopardize privacy for citizens. From value co-creation literature ICT however, is viewed as an enabler for value co-creation, which makes inhibitors within the technical environment of public sector even more problematic. This is also visible in the inhibitors identified in the research projects. One example is the difficulty to incorporate modern IT solutions with the old legacy systems present within local governments in Sweden.

The organizational aspects come from obstacles related to organizational settings within governments in the e-government and open government literature. Organizational issues being a prominent obstacle within the research projects further strengthen this. Examples of inhibitors found are related to fear and resistance to change as well as lack of knowledge and capabilities. This is confirmed in the two research projects, although there is an articulated willingness to embrace new technology there is a strong resistance to embrace new ways of thinking which is required to realize the potential new technology brings.

The service value aspect is derived from inhibitors found in value co-creation literature and the secondary analysis. Inhibitors from the literature include for example power imbalances and conflict of interest between stakeholders as well as utilization of services by citizens. From the projects inhibitors are visualization of value, identification and communication of values such as community values. The service value aspect is not as prominent within open government and e-government inhibitor literature but is present within the goals of e-government and open government by focusing on service quality. Service value inhibitors are also to some extent present in the form of measuring of value of collaborative initiatives. In the value co-creation literature inhibitors are mostly focused on the relationship and thereby the service value element. In the research projects the difficulty to visualize the facilitating principles of modern IT solutions and how to reap the benefits of the potential is an inhibitor.

The compliance aspect is derived from legal aspects identified as inhibitors in e-government and open government literature. Examples are institutional challenges in regards to policies and laws present in a public setting and inhibitors related to the digital divide. The analysis of project data includes inhibitors related to adhering to relevant requirements (both explicit and implicit) from the surrounding environment.

This gives the following descriptions of the four core aspects as presented in table three below.

<table>
<thead>
<tr>
<th>Core Aspect</th>
<th>Description</th>
</tr>
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<tbody>
<tr>
<td>Technical</td>
<td>Modern IT solutions are of significance for collaborating and engaging citizens in governmental activities thereby enabling value co-creation.</td>
</tr>
<tr>
<td>Organizational</td>
<td>The mindset and capabilities within an organization as well as the organizational structure is pivotal for enabling public value co-creation.</td>
</tr>
<tr>
<td>Service Value</td>
<td>Captures the value creation enabled through the offering and usage of public services. It is needed in order to visualize how value is created (or not created) through public services from different stakeholders perspectives thereby creating awareness of value co-creating activities enabled though public services.</td>
</tr>
<tr>
<td>Compliance</td>
<td>Public sector need to adhere to relevant requirements (both explicit and implicit) from the surrounding environment in order to facilitate public co-creation of value.</td>
</tr>
</tbody>
</table>
Table 3. Core Aspects of Public Value Co-creation

Conclusions and future research

Collaborating with citizens and engaging them in public sector activities enables value to be co-created. Sarker et al. (2012) claim to be the first to open the black box of value co-creation in the private sector; in this paper we are continuing this work and have attempted to build initial theory for value co-creation in the public sector by identifying important building block (core aspects) for public value co-creation and hindrances for its realization. Through analysis of previous research and through data from two different research projects we propose four core aspects for public value co-creation: technical, organizational, service value and compliance. The core aspects decompose the complexity of public value co-creation and underlines that value co-creation; e-government and open government are all related to public value co-creation. For practitioners this paper contributes with highlighting aspects that needs to be taken into account to enable and realize value co-creation in e-government initiatives.

Our findings show that each of the field e-government, open government or value co-creation contributes to public value co-creation but none of the field alone can fully explain public value co-creation. Instead these three fields are complimentary and all contributing to value co-creation in public sector. Public value co-creation is thereby a way to connect and bridge these fields. Future research should further deepen the knowledge on public sector value co-creation, for instance by studying the relationship and interdependency of the core aspects for public value co-creation. To establish what constitutes public value co-creation as a whole and thereby provide a holistic understanding of the field it should be investigated if the proposed core aspects for public value co-creation need to be complemented with further aspects.

REFERENCES


Core Aspects for Value Co-Creation in Public Sector


