It Takes Two to Tango: Power Dependence in the Governance of Public-Private e-Government Infrastructures

Short Paper

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Abstract

National electronic identification systems (e-IDs) are key e-government infrastructures that form the backbone of e-government services. When developed via public-private partnerships (PPP), such e-government infrastructures require appropriate governance arrangements to sustain a delicate balance between governments and the private actors involved. Using the lens of power dependence theory, we investigate the ongoing tender process of the third-generation e-ID in Denmark. The key actors are public agencies and the financial sector. Early findings illustrate how contextual factors related to market, technology, regulations, and social norms affect the distribution of power dependence between the actors; such distribution will eventually shape the governance arrangement resulting from the tender. Through this study, we expect to contribute to research on governance of public-private e-government infrastructures, to research on large scale infrastructure procurement processes and e-ID, and to the theoretical development of power-dependence theory.

Keywords: Public-private partnership, e-government infrastructure, e-ID, power dependence theory

Introduction

Governments across the world are faced with the task of establishing e-government infrastructures of increasing complexity (Janssen et al. 2009) whilst being left with reduced skill sets and limited capacity as a result of extensive outsourcing (Cordella and Willcocks 2010). Increasingly, they turn to collaboration with private actors in order to resolve this challenge (Klievink et al. 2016; Klievink and Janssen 2014). These relationships are characterized by a combination of separate private and public organizations who voluntarily form a coherent service delivery system (Bertot et al. 2016; Scupola and Zanfei 2016).

National electronic identification (e-ID) infrastructures are a case in point. Traditional forms of citizen identification were once the exclusive responsibility of state bureaucracies (Castro 2011). With the

diffusion of citizen access to e-Government services, governments are now implementing new infrastructures for the identification of citizens. In the design, development, and implementation of national e-IDs, public agencies are increasingly entering collaboration with private actors in public-private partnership (PPP) (Eaton et al. 2017; Medaglia et al. 2017). In these new organizational arrangements, established mechanisms of governance that enhance control and enforce procedures are no longer found to be suitable for reacting and adapting quickly to technological changes occurring in the environment (Gong and Janssen 2012; Janowski et al. 2012; Misuraca and Viscusi 2014). Governments are therefore expected to adopt new governance practices in order to accommodate these evolving and dynamic collaborative relationships (Bekkers 2009; Ojo and Mellouli 2016).

In most PPPs, we see how public agencies take the role of a buyer and initiate a tender process, while private actors become suppliers (Moe et al. 2017). In contrast, the PPP arrangements in systems of national e-ID demonstrate collaboration and a more equal partnership between stakeholders. The principle reason for these equitable PPP arrangements is the interdependence of the different actors' resources. Consequently, corresponding governance structures need to be in place in order for these joint e-ID solutions to work (Eaton et al. 2017).

Whilst national e-ID systems provide an opportunity for governments and private actors to cooperate, they are also dependent on other actors who are contracted to supply and manage the underlying infrastructure to provide functionality. As with many PPP arrangements, these contracts have a bounded lifetime that expires after some years, prompting the principal public and private actors to re-examine their needs and tender for new and upgraded infrastructures. Collaboration, negotiation, and conflict can be expected to shape the continued development of shared e-Government infrastructures. The dynamics of such a process become even more intense when environmental factors such as the level of competition, technological progress and regulation have evolved over time. These concerns lead to our research question: *"What are the factors that shape the power dependence between public and private actors engaged in establishing the governance of a shared e-government infrastructure?"*

The focus of our research in progress is to 1) identify what factors affect the distribution of power dependence between the government and the private actors involved in the establishment of an e-ID system; and 2) understand how this distribution shapes the resulting arrangement between the government and the private actors for the governance of the new e-ID system.

We aim to understand the process by which a governance model is developed and agreed amongst a heterogeneous group of actors, who exist in a state of potentially conflicting interests and asymmetric power relationships. The research has a practical relevance in the context of the increasing emergence of complex e-government infrastructures (such as national e-ID), where success is dependent on the ability of different actors to establish a mutually acceptable governance structure. To address this question, we have begun to investigate the tender process of a third-generation e-ID in Denmark. It concerns a public tender developed in concert between the public sector (the Danish Agency of Digitisation) and the private sector (FinanceDenmark) as they move from a second generation to a third generation of e-ID.

The paper is structured as follows. In the next section, we discuss gaps in previous research on governance in public-private partnerships and on e-IDs, zooming in on tendering in the IT public procurement process to position our study. Next, we present power dependence theory as our theoretical framework, and we outline the methods used in this ongoing study for data collection and analysis. In the following section, we present the case analysis, and present an initial model that captures the role of four contextual factors (market, technology, regulation, and social norms) on the power dependence relationship between public and private actors agreeing on the governance of an e-government infrastructure. In the discussion section, we identify expected research and practice contributions, and outline future research.

Previous Research

Governance in Public-Private Partnerships

Given the different nature of public and private organizations, and the complexity associated with their relationships, a stream of research has focused on the governance arrangements of PPPs aimed at establishing e-government infrastructures. Governance has been defined as an attempt to improve coordination between relatively dependent actors for the purpose of solving societal problems (Klijn

2008), and as the solution that individuals and organizations devise for addressing issues of coordination (Markus and Bui 2012). Among conceptualizations of governance, New Public Management and network governance (Lecy et al. 2014) are two perspectives of governance that have aimed to clarify how public and private actors cooperate in the design, implementation, and management of policies through different forms of collaboration (Bovaird 2005; Provan and Kenis 2008). *Governance as New Public Management* focuses on how to improve the performance of government by shifting the role of implementation to non-state actors (Dunleavy and Hood 1994). *Network governance* focuses on the complex processes taking place in networks of public and non-public actors (Provan and Kenis 2008).

Further studies focus on the *antecedents* of PPPs in e-government and aim at highlighting generic success factors of collaboration for e-government initiatives (Taher et al. 2012), without focusing on the specific characteristics of contextual factors. Yet more studies examine the *effects* of PPP-enabled e-government initiatives and consider how collaborations result in power shifts between the actors involved (Belachew and Shyamasundar 2013), without zooming into the emergence of specific governance arrangements. Drawing on an analysis of public-private information platforms, it has been suggested that, from a government perspective, striking the right balance between maintaining the control needed to secure public value and enabling autonomy that can encourage innovation, is of key importance (Klievink et al. 2016). Similarly, achieving the goals of governance networks, in which government, business, and civic actors alike take part, is deemed to be affected by network strategies and structures, including design and human capital (Ojo and Mellouli 2016).

Electronic Identification (e-ID)

Electronic identification (e-ID) systems feature a high relevance as a research area, since they represent a natural point of tension between public and private actors engaged in the governance of a shared infrastructure. An E-ID system can, in fact, be considered as the "service of all services", as it represents the service that enables all other digital services, in the interest of both public agencies, and of businesses.

E-IDs have been studied using a variety of frameworks, such as innovation (Kubicek 2010; Kubicek and Noack 2010), boundary objects (Hedström et al. 2016), actor-network theory (Wihlborg et al. 2015), and collective action (Eaton et al. 2017). A number of different methodological approaches have also been employed, such as case studies (Eaton et al. 2017; Hedström et al. 2016; Hoff and Hoff 2010; Medaglia et al. 2017), and surveys (Seltsikas and O'Keefe 2010). In this body of research many perspectives, including technological decision-making (Whitley and Hosein 2008), trust and public value (Seltsikas and O'Keefe 2010), surveillance (Lyon 2009), security (Wihlborg 2013), historical evolution (Eaton et al. 2017; Hoff and Hoff 2010; Medaglia et al. 2017), innovation process (Kubicek 2010; Kubicek and Noack 2010), market governance (Grönlund 2010), and life cycle (Melin et al. 2016), have been applied. However, so far, the perspective of power-dependence relationships has not been considered.

Research that provides insights into the evolution of e-ID is particularly relevant to this study. For example, Grönlund (2010) found that the development of e-ID could be driven by governmental actors as well as by market actors. Studies focusing on the development of national e-ID from a life cycle perspective are also germane, such as Melin et al. (2016). who found that there are significant challenges involved in managing e-ID due to contextual, technological, and governance issues. In spite of this body of research, there is still a gap in understanding the process that leads to the governance arrangements of e-government infrastructures, such as e-ID systems.

While Information Systems research has focused on the procurement processes in different corporate areas, such as banking (Taylor and Tucker 1989), or general enterprise supply chain management (Nissen and Sengupta 2006), there are only a handful of IS studies focusing on procurement processes in the public sector. Hackney et al. (2007) propose the electronic reverse auction as a strategy to improve efficiency in public sector procurement processes. In relation to the tendering process, Lewis (1999) proposed a risk-remedy method in the evaluation of information technology outsourcing tenders, highlighting the importance of using the correct requirements, considering the cost of bidding and of delay, checking bids carefully, and of using a design rather than a selection approach.

In the e-government field, on the other hand, studies of procurement processes have focused on multiple perspectives. A number of studies adopt a classic approach, examining challenges and success factors in the informatization of public procurement (Groznik and Trkman 2009), or devising maturity models to

assess the performance of e-government online procurement portals (Concha et al. 2012). Conversely, another stream of studies considers interactions between groups, and aim to investigate how the procurement process is shaped by the different stakeholders involved. Extant studies focus on how the *interpretation* of public e-procurement processes by the stakeholders involves change according to different contexts (Hardy and Williams 2008), and on the *motivations* (technical, political, economic, and operational) for public agencies and businesses collaborating in the implementation of e-procurement systems (Fedorowicz et al. 2009).

As recently highlighted by Moe et al. (2017), public entities face a number of dilemmas when they enter into collaboration with private actors in public procurement processes. The research body in this area shows that, while first attempts at unpacking how the relationships between stakeholders influence the IT procurement process have been made, there are many dimensions of this interaction that are still uncovered. The dimensions of power and of dependence relationships between public and private actors are among the ones that need further research.

Gaps in the research bodies of PPP and of e-ID call for a new focus in studying the challenges arising in this area, in particular in the interaction between public and private stakeholders (Klievink et al. 2012). In this study, we aim to focus on the tensions rising between private and public actors at national level engaged in establishing IT infrastructures. While private actors are motivated by profit and ultimately need to invest in an infrastructure that just "works", the public sector is required in principle to pursue goals of public good, and is restrained by having to consider budget control and procurement requirements for a fair tender process, and to encourage competition among suppliers.

Analytical Framework: Power Dependence Theory

A general definition of power states that "power has to do with relationships between two or more actors in which the behavior of one is affected by the behavior of the other" (Hall 1999, p. 111). Phenomena in which power is exerted in IT endeavors where there are different, and often conflicting, interests are appropriately focused on within the *pluralist perspective* on power (Jasperson et al. 2002). This perspective assumes that there are objective definitions of power, and that conflict is the norm. In the pluralist perspective, the development, prioritization, and execution of goals is a process that involves conscious negotiation based on control of resources and information. Each participant pursues objectively identifiable goals.

This study falls within the pluralist perspective, where we adopt the conceptualization of power based on Emerson's dependence theory (Emerson 1962). In all relationships, competitive or collaborative, there is a power struggle. The central proposition of Emerson's dependence theory is that power is a consequence of the dependence of one actor on another. In a two-party exchange relation, the power of one actor (A) over another actor (B) is a function of the dependence of B on A. Dependence, in turn, is a consequence of the value that actor A places on the resources of actor B and the availability of alternative sources for the resource (Emerson 1962, p. 32). Power gives an actor the ability to influence the conditions of exchanges in the network in its favour and hence to appropriate more valued resources from its exchange partners (Emerson 1962, p. 33). Resources include "any valued activity, service or commodity" (Cook 1977, p. 64), while exchange relations are "voluntary transactions involving the transfer of resources between two actors or more for mutual benefit" (Cook 1977, p. 64). A benefit of seeing power as related to dependence is that it allows for the "specification of ways in which dependencies can be altered to affect the balance of power in the exchange relation and in the network of connected exchange relations" (Cook and Rice 2001, p. 705). This benefit can be applied to studying changes in power dependence relationships over time, and to understanding the consequences of these changes.

Power dependence theory has been widely used in management research (Meehan and Wright 2012). In IS research, Emerson's concepts have been employed in a variety of ways. The power dependence lens has been applied at the individual level, to investigate how information systems support individuals in increasing power potential within their organizations (Lee 1991). However, the majority of IS studies using the power dependence lens focus on relationships at the organizational level. Drawing on the tenets of power dependence theory, Tillquist et al. (2002) propose a representational methodology that can show dependencies between organizations. Studies at the organizational level focus on supply chains, investigating, for example, the correlation between the dependence of a supplier on a customer, and the

power of a customer to influence the supplier to adopt EDI (Hart and Saunders 1998). Power dependence relationships are also highlighted within IT outsourcing (Kern and Willcocks 2000; Tan and Sia 2006), where power dependence relationships between vendors and clients are found to change in relation to external shocks, such as abrupt decreases in market demand (Su et al. 2014).

Building on this body of research, in this study we use the power dependence lens to investigate the interactions between private and public actors engaged in establishing a shared e-ID infrastructure. We posit that the nature of this interaction shapes the governance arrangement between these two groups of actors. With such a perspective, we aim at tackling unsolved challenges in the research areas of infrastructure governance, PPP, and e-ID solutions, as discussed in the previous sections.

Method

We apply a case study approach (Yin 2013) in our investigation, which is in its early stages. The single case that we have chosen is the tender process of the third generation of e-ID in Denmark. Denmark is a country that features a unique combination of high levels of digital literacy and IT penetration, extensive government welfare services, and an administrative tradition based on shared principles of trust and co-decision between government, market actors, and civil society (Hoff and Hoff 2010). This gives us the opportunity to explore the collaboration between private institutions and the public sector in the emergence of e-ID in a unique setting. The data corpus for this study comes from three main sources: 1) online sources, including organizational blog posts and project homepages[1]; 2) documents, including policy documents and legal framework[2]; and 3) five interviews with key stakeholders chosen on the basis of their expertise and involvement with the tendering process that is the focus of this research (including program managers, a head of division, and a head of a national agency) in line with the key informant approach (Kumar et al. 1993). We are still collecting more data to populate our data corpus. Our approach to data analysis is broadly in line with Eisenhardt's (1989) approach to building theory from qualitative case study research. The objective is to identify relevant initial conditions, changes, events, and states necessary to capture the emergence of a governance structure in the third-generation e-ID as it is being established. In this way we follow an abductive approach to analysis, where power dependency theory is used as a sensitizing device. We plan to code the data in three overlapping phases, with distinct objectives. Our unit of analysis concerns the interactions between private and public actors in the tender process of a third-generation e-ID. The first phase of coding of the data aims to capture the event-time series of the emergence of e-ID. Coding categories will be generic process codes, including events, actions, decisions, and outcomes, to determine concepts (such as phases, technologies, policies, stakeholders, user base, etc.) and their properties (e.g., initial/final). We will apply an open coding procedure to achieve this. The second phase of coding aims to consolidate common groups of codes across interviews and generate underlying theoretical concepts. In the third coding phase, we will turn to the literature and look for overarching patterns. At this early stage of our research we have already coded a number of key documents as well as our five interviews as per phase one. Although we intend to source more documents and conduct more interviews for analysis, we have started to look across the sources we have already coded as per phase two. As the analysis reveals we have tentatively identified a number of contextual factors that contribute to the dynamics of the power dependencies in the governance of public-private e-Government infrastructures. We have, however, yet to analyze the nature of these governance dynamics in and of themselves.

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[1] Examples of organisational blog posts and project pages we use are from the Danish Agency for Digitisation (https://www.digst.dk/Servicemenu/Nyhedsbrevarkiv and https://www.digst.dk/It-loesninger/MitID) and from Nets AS (https://www.nets.eu/dk-da/nyheder/nyhedsbreve/nemid) amongst others.

[2] Examples of policy documents and legal framework we use include: EU Regulation nr. 910/2014 of 23 July 2014, OECD (2016) and Danish Agency for Digitisation (2017) amongst others.

Case Description and Analysis: The Tango

Presenting our ongoing analysis of the interaction between the government and the private actors in Denmark, we adopt the metaphor of the tango dance. In our case, the two partners that need to successfully coordinate with each other are the Danish public agencies, on the one hand, and the Danish financial sector that participate in the tender for establishing an e-ID infrastructure, on the other. In the tango style of dance, the power between the partners is not evenly distributed: one of the partners (the male dancer) leads the dance, whilst the other partner (the female dancer) follows his movements. In our case, and unlike real tango, the power distribution between cooperating partners can shift over time. However, as in a real tango, a successful dance is characterized by both partners' collaboration in the moves. In our preliminary analysis, we distinguish between "getting to the dancehall", corresponding to the period that goes from the initial conception of a national e-ID to the first development of an infrastructure in collaboration with the banks, and "asking for a dance", corresponding to the period that goes from the end of the existing contract, to the current situation of open tender for a third generation of e-ID. A third stage, "how does the dance go", where we evaluate the process of how the actors establish a common governance model, will be included in future work, when the process is completed and we have collected the data.

Getting to the Dancehall

In 2001, the Digital Task Force (DTF) was established by the Danish Ministry of Finance. The DTF coordinates all entities that are involved in e-government (central, regional, local government, and businesses). Up to this period, different separate initiatives for authentication to access public services flourished within the public sector, including a regional health card, and two tax system authentication technologies: one based on a one-time password and one that required the installation of a software on the user's device. In this period, banks started developing their own security solution, known as Net-ID, for access to online banking services. The individual banks under the certification authority of the *Pengeinstitutternes Betalings Systemer* (PBS – "Banks' payment systems") issued Net-ID. The Net-ID was developed in isolation from the public sector, and the banks saw little benefit in cooperating with the public sector in this area, except for the use of CPR number as a unique identifier. The government established its own framework for a national digital signature (Danish law nr. 417 of May 31st, 2000) and issued a public tender. During the evaluation, two vendors were found attractive. The first was a consortium of banks and PBS who were offering Net-ID. The second was TDC (Tele Denmark Communications), who won the contract by the Danish government. The roll out of the digital signature was much slower, compared to the banks' Net-ID. In the period 2003-2007, only around 250,000 citizens used this technology, compared to 2.2 million users of Net-ID. The main reason for the low up-take was the absence of a perceived benefit from citizens and businesses, and technical difficulties (Hoff and Hoff 2010).

In 2008, after the contract between TDC and the Danish government expired, it was time for a new tender for a second generation of e-ID. PBS (later re-named to *Nets*) won this tender. The new solution was called *NemID* ("EasyID" in Danish), and was characterized by: a) possibility to be used as signature for banking services; b) a two-factor identification technology, containing something you know (username/password), and something you get (a one-time password); c) the possibility of logging from multiple devices. The NemID became operational in January 2011, and reached 3.5 million users in March 2011. Today, NemID is used by all public institutions and by private actors where secure electronic authentication is needed.

Asking for a Dance

A large part of the success of NemID as a national system of e-ID can be attributed to the governance structure that was put in place between the Danish Government and the Danish banks. By having infrastructure provider Nets as a means of mediating and managing the requirements of both government and banks, the interests of the two sides were served. Having citizens use the same authentication credentials and experience for accessing digital government services as they did for online banking helped the Danish government achieve high citizen use of e-government services. Similarly, having citizens use their CPR number (the Danish citizen's social security number) allowed banks to share a common

authentication infrastructure and achieve economies of scale and scope. However, the contract with Nets had a duration of 7 years. Its imminent expiration gave the stakeholders in NemID an opportunity to plan to tender for a third generation of e-ID, with the name of MitID.

The opportunity to establish a contract for a new solution gives both sets of stakeholders opportunities to improve on NemID. The Danish government is seeking to break open the monopoly that Nets, the current supplier, has on e-ID in Denmark. The Danish banks are seeking a solution which will enable them to differentiate and bring new services more rapidly to market. Whilst the two sides have been able to cooperate and accommodate each other in the current solution using Nets as an intermediary, the relationship has not necessarily been easy, and exists in tension. The banks' frustration with government revolves around their need to respond quickly to competitive changes in the market, which is hindered by the government's need to approach change cautiously. The government is motivated by its need to ensure the security and stability of NemID in order to protect the interests of their citizens, which makes them more risk-averse than the banks. In the words of one of our informants: *"The banking sector provision time demands new solutions not every day, but perhaps every month, and they want the freedom to make changes. In contrast, you have the public sector that doesn't take any risks, as they have to protect personal data and so on. The banks may be getting tired of this cooperation."*

The dynamics of power in this relationship are also asymmetric. The government is more dependent on the banks, as it needs access to the banks' installed base of users to maintain citizen participation in e-government: *"The public sector fears that the banks create their own solution. They will lose whatever they have built in the last seven to eight years. The banks have the popular applications and the public sector needs a lot of people enrolled in this system [...] they [the Government] have digitized a lot of services that depend on NemID. They fear the loss of users to another system will be a setback for digitization in the public sector."* In spite of these tensions, the banks and public sector need to agree on specific requirements in order for the tender process to be a success. As part of this, both parties need to reach agreement on a governance model for the future MitID that fulfills their respective needs. Furthermore, the process by which the banks and the government negotiate their governance model takes place in a context which has evolved significantly in the seven years since they negotiated NemID. These changes can be described in four broad contextual factors: market, technology, regulation, and social norms.

Market: The banking industry in Denmark has evolved over the past seven years. In the words of one of our informants: *"The market has changed dramatically since the last solution was made 2010. And that's because the banks face more competition between themselves, and also from new competitors entering the market."* Since the establishment of the first generation of NemID, other very successful solutions of digital authentication have been developed by the market. These include a number of popular mobile payments applications, developed by individual banks, that enjoy a huge success among Danish users, and have sparked fierce competition (Hedman et al. 2017). As a result of this tension, banks are more cautious to cooperate with each other in infrastructure projects such as e-ID, whilst needing platforms that enable them to compete and differentiate through the rapid innovation of new services.
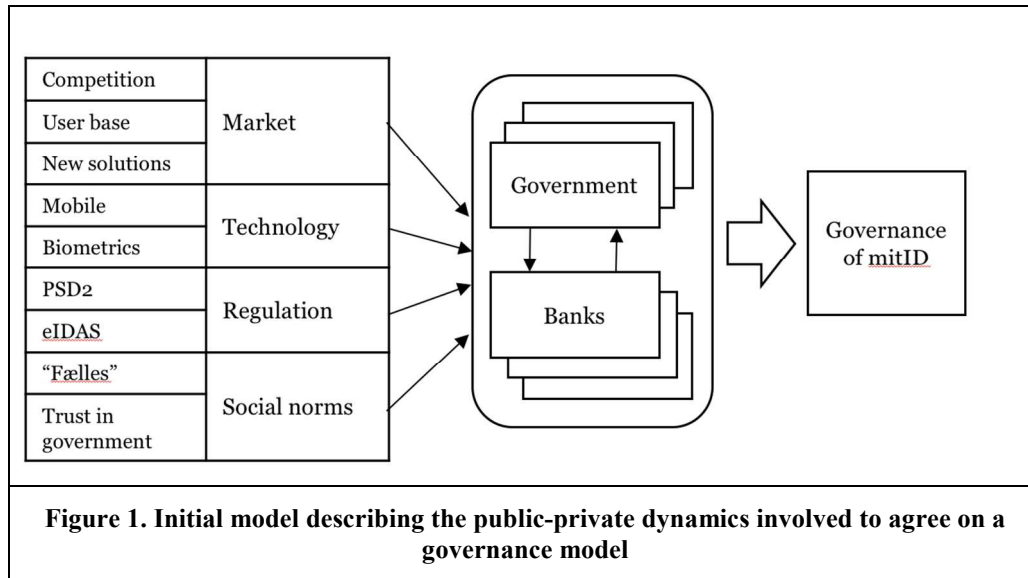
Technology: The previous generation of e-ID solutions embodied in NemID emerged shortly after the launch of the iPhone. Since then, mobile technologies have had significant impact on banking services such as in mobile payments, which have been broadly adopted in Danish society (Hedman et al. 2017). There is an expectation that a new e-ID system will embrace mobile along with emergent technologies such as biometrics.

Regulation: The regulatory framework concerning financial services within the EU have evolved through changes in law such as the 2nd Payment Services Directive (PSD2), which will open national markets to European-wide competition. Similarly, the EU has established regulations (No. 910/2014) concerning electronic identification and trust services for electronic transactions in the internal market, known as eIDAS. The regulation came into effect in July 2014, so that both current and future solutions (NemID and MitID) are and must be compliant.

Social norms: The long-established Danish culture of *fælles* (meaning "shared" in Danish) public-private solutions that was a key feature of many infrastructural projects, including NemID (Danish Agency for Digitisation 2017), is becoming less common. The market, technological and legal changes seen above have, in part, begun to dissolve the social norm ties that led the banks to formally cooperate with the

government. In addition, the banks have historically had a culture of cooperation amongst themselves, driven in part by government pressure. This spirit of cooperation has started to diminish as competitive pressure within the banking sector has increased. Finally, Danish users have started demanding higher standards of privacy and security with regards to their interactions with the state (Hoff and Hoff 2010), which historically have instead been characterized by very high levels of trust, and less concerns on privacy in e.g., government databases integration, compared to many other Western countries.

Based on our initial data and analytical findings, we propose a working model to capture the dynamics that we observe at this early stage of our research (Figure 1).

Figure 1. Initial model describing the public-private dynamics involved to agree on a governance model

The model describes how the contextual factors influence the power relationships, as the Danish government and banks negotiate their approach to the governance of Denmark's future national e-ID system ("mitID") in the tender process. In the next section, we discuss expected research and practice contributions stemming from the ongoing research based on this model.

Discussion

Our study has revealed preliminary findings. These suggest that contextual factors influence the power dependence relationship between the government and the banks involved in the establishment of a new governance arrangement for the new generation of e-ID infrastructure. These contextual factors are related to the development of the market, technology, regulation and social norms. We plan to draw on this model to continue our empirical study, with the aim of providing contributions to both research and practice.

The first expected research contribution of this work concerns antecedents of power-dependencies between public and private actors. Drawing on power dependence theory, we put forward that it is not only resources that one has to look at to explain the distribution of power between actors, but also the contextual factors. Studies on antecedents of PPPs in e-government have highlighted generic success factors of collaboration for e-government initiatives (Taher et al. 2012), without examining the specific characteristics of contextual factors. We tentatively identify the four contextual factors of market, technology, regulation, and social norms, and aim to unpack how each of these factors shapes the distribution of power between the two groups of actors involved in the governance of e-government infrastructure. As a theoretical contribution, we complement process studies on power-dependence by highlighting the role of contextual factors.

Our second expected research contribution is to research on the governance of public-private e-government infrastructures. The balancing of power has been found to be the key element of the governance of public-private platforms (Klievink et al. 2016; Klievink and Janssen 2014). Existing research on decision-making power in the governance of public-private collaboration in IT-related

projects has focused on the extent to which governments retain decision-making power (Ojo and Mellouli 2016). Our study contributes to this body of research by linking the shifts in power balance between private and public actors to the outcomes of governance arrangements.

Our final expected contributions are to research on public procurement processes and e-ID. Public procurement has been studied using a number of theoretical lenses, including actor-network theory (Hardy and Williams 2008), strategic alignment framework (Fedorowicz et al. 2009), and dialectics (Moe et al. 2017). To the best of our knowledge, ours is the first attempt at studying an IT procurement process, and a case of e-ID development, using the power-dependence theoretical framework.

Our research has also the potential of generating useful practical guidelines for actors in PPP. For instance, we believe that PPPs on equal terms require a fundamentally different mindset of all parties involved. Instead of thinking in traditional demand and supply terms, PPP actors need to focus on overcoming any legacy thinking and developing a shared thinking that comprises the mutual benefits of a common e-government infrastructure. This requires collaboration and openness of the involved parties to envision how they can reach common goals. However, in these collaborations, it seems that the governance structure is one of the key issues to solve, particularly understanding how governance works in a particular context. In our case, it is in the intersection between banking and finance with its legacy of bank opacity, on the one hand, and the bureaucratic state, on the other hand. In particular, for the government agencies it is of importance to develop continuous environmental scanning capabilities.

Going forward, we plan to conduct a number of interviews with a wider set of stakeholders. This will start with public sector and private sector agencies, before expanding to those organizations bidding for the tender. We plan to adopt a snowballing strategy to identify further key stakeholders involved throughout the process of establishing the governance of the new infrastructure. Moreover, in line with the framework we propose, which highlights the role of contextual factors (market, technology, regulation, and social norms), we will focus the analysis on the stakeholders' interpretations of the impacts of such factors.

The approach of power dependence theory (Emerson 1962) has so far shown strengths and explanatory power, but we invite suggestions for alternative or complementary perspectives.

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