Institutional Preconditions Influencing Banks Adopting Software-as-a-Service and Mobilizing for Servitization

Completed Research Paper

Elizabeth A. Teracino
University of Groningen
Nettelbosje 2, 9747AE Groningen, Netherlands
e.a.teracino@rug.nl

Kristian Peters
University of Groningen
Nettelbosje 2, 9747AE Groningen, Netherlands
k.peters@rg.nl

Hans Wortmann
University of Groningen
Nettelbosje 2, 9747AE Groningen, Netherlands
j.c.wortmann@rug.nl

Abstract

Studies on change within an institution or to drive a new one where cooperation from a numerous dispersed actors is required are lacking. This study explores mobilization as describing a firm’s activities to motivate others to join their vision to shape a new market. The institutional settings firms previously adhered to prior to mobilizing into the new market, or institutional preconditions, could influence mobilization activities and thus need to be considered as well. Whether, and if so and how, firms mobilize and the role institutional preconditions play are addressed for the case of banks adopting a software-as-a-service (SaaS) model. Exploratory qualitative methods are used and SaaS adoption factors for the banking industry are explored. Results are discussed and future research suggestions are offered.

Keywords: Institutional theory, Software-as-a-Service, servitization, financial services, mobilization, service integration, agency, Institutional preconditions
Introduction and Motivation

Increasing software-as-a-service (SaaS) business model adoption is paving the way for a new market for online software-enhanced financial services market. A SaaS model is on the application layer of the cloud where software and associated data are hosted and deployed by a SaaS provider for multiple end customers simultaneously. End customers can access and rent part or all of the software’s functionalities online, often for a monthly subscription fee. Previously, traditional software was installed and maintained on end customer servers and computers as a packaged application ('on-premise'), after purchasing a license. There are many benefits of SaaS adoption for both customers (e.g. reduced costs on IT implementation, reduction in duplicate manual data administration) and SaaS service providers (e.g. reduction in operational costs, higher quality services). As a result, SaaS adoption has increased for enterprise resource planning (ERP) software providers and financial service firms such as banks and accounting firms (examples being online banking and online bookkeeping respectively). From the SaaS provider perspective, these benefits can be broken down on two levels: Internet technology (IT) and business. Using a bank as an example, the benefits on an IT level could include enhancing internal business architectures and reducing operational costs. On a business level, benefits could include adding value to end customers, both commercial (companies) and retail (individual customers). On the business level, a bank could develop a SaaS treasury offering, where (commercial) customers could optimize payment methods via multiple bank accounts. This could imply this customer has a higher amount of redundant data entry tasks via pending cash flows; therefore, integration with a customer’s ERP traditional solution could add value. While on-premise solutions can enhance each other via data exchanges, these are still separately offered services from separate entities. SaaS services however could be merged more synergistically into a new joint offering by a new joint entity, as perceived by end users. This is desirable as SaaS servitization yields a higher value for customers than when the individual services are consumed separately.

Due to this, ties between companies from these different sectors are becoming increasingly more important (Gulati et al. 2009; Kohli and Grover 2008) as they have been shown to impact the value created by servitization (Sarker et al. 2012). In cases where there is no established market leader, creating and maintaining value-adding ties to differentiate one’s offering(s) (Narayanan and Chen 2012) is essential for sustained survival and advantage in an emerging technology-based market (Garud et al. 2002). This is particularly the case for the ERP firms, who are becoming service providers in a sense, and are the initiators for SaaS adoption. The more value-adding ties they can link to their ERP solution, the more differentiated the solution can be. However, they face the challenge of motivating business partners such as banks or accounting firms, or the adopters, to form ties via their solution. This is because divergent interests of the adopters may promote competition over collaboration, despite a need for coordination to proceed into a new complex emerging environment (Iacovou et al. 1995; Wijen and Ansari 2007) like the online software-enhanced financial services market. This study will take the perspective of the adopters, and more specifically that of the banks. Strategically and proactively creating ties to differentiate and enhance the services offered could have added importance as a result; however, this comes with its own challenges.

When seeking out ties from different sectors, creating and maintaining these relationships in a new market is a complex task involving leveraging both social and political skills (Fligstein 1997; Garud et al. 2002). An example of social skills is the ability to rally potential ties to join or accept your vision of what the market could look like (Ozcan and Eisenhardt 2009). Political skills are necessary for continued pursuit of this vision, where it is necessary to shape the market in a way that will enable maintenance of those ties (Garud et al. 2002; Suarez 2004). Firms’ use social and political skills to create and drive a new market can be explained via the concept of mobilization through the lens of institutional theory. Institutional theory is concerned with how rules, norms, protocols, culture, etc. shape and influence a firm’s behaviour in social and commercial settings (Scott 2007). In emerging fields where these rules, norms, protocols, and culture have yet to be established, mobilization could be defined as firms engaging others in support of their vision of what the institutional rules, norms and culture could look like in a new market (Purdy and Grey 2009). The literature has focused on explaining why firms would engage in mobilization in the first place, to either enter a new market or to alter the current institutional environment (i.e. Seo and Creed 2002), when changing institutional rules, norms and culture could potentially have undesired effects. This was of particular interest for highly institutionalized markets such
as financial services, where the largest accounting firms enacted changes within the very institution that provided benefits such as legitimacy (Greenwood and Suddaby 2006). While it could potentially be explained why a firm may mobilize, none of these studies explore whether they will mobilize, and then if so, how. In order to understand whether firms will mobilize, the institutional contexts firms subscribe and adhere to prior to mobilizing, or institutional preconditions, need to be understood. This is of particular importance in this case as in circumstances of high uncertainty such as in a new market when a technological phenomenon is occurring (Leblebici et al. 1991) like SaaS adoption. In such a case, institutional forces tend to be quite potent (DiMaggio and Powell 1983), particularly for the financial services sector (Greenwood and Suddaby 2006). Thus this study’s concern is to understand first whether banks as adopters will mobilize for servitization through SaaS and if so, how. Further, this study will also consider the role institutional preconditions play with regards to mobilization activities.

Research methods deemed appropriate are that of a qualitative nature since extant theory falls short in explaining whether and how firms will mobilize (Yin 1994), and mobilization itself is a concept that needs further development (Garud et al. 2002; Purdy and Grey 2009). The objective is to first explore whether adopters in this case mobilize, while exploring the potential influence of the institutional preconditions. If firms do mobilize, observing how is the next step. In order to proceed, the paper is structured as follows. Section 2 provides a summary of institutional theory, its role as a conceptual background in this study, and an exploration of whether and how firms will mobilize. Section 3 will give an overview of the proposed methodology and delve into the context of the banking cases this study explores. Section 4 explains the data collection process. Section 5 provides an overview of the results. Section 6 explores these results and leads to interpretations regarding the role of institutional pressures. Section 7 concludes the study and offers potential future research avenues. For academics, this study aims to contribute to the agenda of institutional theory by focusing on the deliberate strategic agency to create and drive a market by developing upon the concept of mobilization. This study will also contribute by addressing practitioners’ concerns/interests as to how to approach the challenges and opportunities of servitization and coordinating ties related to servitization for which advice and information is scant.

### Institutional Theory as a Conceptual Background

Institutional theory asserts that organizations within an industry adopt similar practices and structures in order to secure position and legitimacy in their industry, and this is widely accepted (Scott 2007; DiMaggio and Powell 1983). These practices and structures guide an organization’s behaviour in various social and commercial settings (Scott 2007; Droge and Marvel 2010). This is even more so the case in sectors of industries that are considered highly institutionalized, such as financial services (Greenwood and Suddaby 2006). Thus, understanding the processes and mechanisms of a field-level change became a central theme of recent studies employing institutional theory (Smets et al. 2012). While the institutional theory literature, particularly the institutional entrepreneurship branch, has begun to address the role of actors in shaping their environment (Bruton et al. 2010), it has focused on why actors would desire to change the very institution providing them benefits and legitimacy in the first place (Greenwood and Suddaby 2006; Seo and Creed 2002; DiMaggio and Powell 1991; Holm 1995; Hirsch and Lounsbury 1997).

Four dynamics were identified to explain why firms would mobilize: adverse performance in the market, a need to service large companies with a demand for multidisciplinary services, a misalignment between institutions and markets (i.e. national versus international regulations), and resource asymmetries between players and regulators (see embedded agency paradox, Seo and Creed 2002). All four dynamics could potentially be applied to the banks entering the online software-enhanced financial services market, which can serve as explanation for banks’ interest in mobilizing others for servitization. Whether these banks will deliberately initiate this change, and then, if they do, how, still needs to be explored. As a result, increasing attention has been placed on field-level changes (see agency-structure paradox, Greenwood and Suddaby 2006) where actors purposefully and strategically enact changes to an institution or drive a new one. Often these studies focus on individual actors or entrepreneurs. In doing so, they tend to neglect the challenges posed by a need for potential ties with numerous dispersed actors required for change to occur, which is the case in more complex fields (see collective action paradox Wijen and Ansari 2007). Change within an institution or to drive a new one that is dependent on coordination amongst numerous dispersed actors is a gap that requires further research (Dorado 2005).
This becomes more challenging if collaboration must occur with current or potential future competitors. This could be the case if firms decide to mobilize for servitization in the online software-enhanced financial services market. Actors can mobilize individually. They can also seek ties with others in their own market, firms in separate markets, or regulators or committees, for example.

Potential mobilization activities are proposed for this research as a SaaS servitization road map and explored in the context of the banks as adopters: 1) utilizing SaaS to improve the quality of a service offering 2) enhancing services via data exchange connections, and 3) merging services more synergistically into a new joint offering. A requirement for SaaS servitization is that banks adopt a SaaS model, which can be noted as SaaS adoption. A bank that has adopted SaaS hosts the IT aspect of the service on their end, and end customers, either commercial or retail, access the service online. SaaS adoption can have relevance for firms independent of ties with regards to mobilization. If a bank improves the quality of their online banking solution for example, this could be a differentiating factor between banks. A step further is a data exchange connection between services. This could create additional value for an end customer, where SaaS services are linked and manual data entry is reduced. Figure 1 below provides a visual example of a data exchange connection.

![Figure 1. Example of a Data Exchange Connection Between an ERP Vendor and a Bank](image)

A data exchange connection between services can occur between on-premise solutions, SaaS to on-premise and SaaS to SaaS solutions. While on-premise solutions can enhance each other via data exchanges, these are still separately offered services from separate entities. This is also true for SaaS to on-premise as well as SaaS to SaaS data exchange connections. An ERP solution adds value for end customers by automatically updating book keeping with transactions from an end customer's bank account through the data exchange connection. While payment information is sent from the ERP to the bank for updating purposes, the end customer cannot make a payment through the ERP without authorizing through the bank. This emphasizes that two entities are providing services even if they are connected and enhancing each other. It is also possible that one service could receive more value than another with a data exchange connection if the opportunity is not maximized by the adopter. A bank could optimize its asset-based loan application process with data from the ERP but may not pursue it. In this example, the ERP receives more value from the data exchange than the bank. Still, without SaaS adoption, both entities’ services have the potential to be enhanced by each other. Another step further can occur if both entities are connecting SaaS services. A SaaS to SaaS connection allows for the possibility that these services be merged more synergistically into a new joint offering by a new joint entity altogether, as perceived by end users. This is the highest level of mobilization with regards to SaaS servitization. Surrendering some autonomy is necessary for this level of servitization, and trust that both entities will balance their interests with those of the other entity becomes more marked.

This road map for SaaS servitization provides insight into how adopters, namely banks, could approach mobilization in the context of the online software-enhanced financial services market. Activities of mobilization have only been denoted in previous studies on the individual level in non-technical emerging fields (Maguire et al. 2004), from the perspective of one firm (Munir and Phillips 2005) and for the purpose of creating a platform (Garud et al. 2002). Mobilization activities become more challenging when potential ties stem from different environments to which they conform. Since adopters have private
interests, the institutional preconditions of firms must first be understood as these may influence whether and how firms mobilize.

To understand the institutional preconditions of the banking industry, the assumption is first made that all markets are or become institutions (Fliqistein 1997), and in taking an industrial perspective in this study, an institution will refer to an industry. To proceed, we adopt Scott’s (2007) three domains of institutionalization – regulative, normative and cognitive. Since mobilization activities stem from the firm level via internal organizational changes, which then can affect the inter-firm and industrial levels (Garud et al. 2002), these domains also allow for analysis of mobilization activities and their effects via a multi-level perspective. The three domains – regulative, normative and cognitive – were proposed by Scott as relating to “legally sanctioned, morally governed and recognizable taken-for-granted behaviors respectively” (Scott et al. 2000, p. 238).

The regulative domain encompasses regulations, policies, and laws. Essentially this is the domain of not only formal rule creation but also enforcement mechanisms of formal rules. The major source of regulatory rules and enforcement mechanisms are national governments, although some regulatory structures like associations or committees exist at the community level (North 1990; Scott 2007). Banks are held to strict reporting protocols and must maintain active auditing procedures.

The normative domain accounts for behaviour that is guided by perception of what is deemed appropriate, common values, and social obligations. Norms, protocols, and value systems are some examples. This domain is established through the interactions between firms and thus can represent the inter-firm level. Normative systems simultaneously empower and enable social action (Scott 2007). Norms that are presented, contested and potentially accepted are established during mobilizing via inter-firm interactions. The normative domain becomes mature prior to these interactions becoming concrete practices, laws or rules on the regulative domain. For an emerging industry such as the online software-enhanced financial services market, it is in this domain that mobilization activities can be observed. The collaborative and competitive efforts of the adopters with potential ties are essential to this market’s development of these norms and protocols. These are presently being experimented with as none have yet been concretely decided upon in the regulative domain.

The cognitive domain here refers not to individual mental constructs but to widely-shared social knowledge and taken-for-granted knowledge structures. In this research this domain takes the firm level perspective. This includes complying with cognitive pressures regarding legitimacy that could, for example, be due to habitual activities. In other words, users of technology, the Internet, for example, may not be consciously aware that they are complying (Grewal and Dharwadkar 2002). Adoption in this context is often in mimetic fashion, or simply put: because others are doing it. This domain is relevant to the SaaS environment as without SaaS adoption, and firm level organizational changes related to this adoption, the online software-enhanced financial services market would not exist in the first place.

In order to explore and understand the strength of the pressures on each of the domains of the institutional preconditions, SaaS adoption factors specifically relevant to servitization are considered on each of the domains as depicted in Figure 2. The factors considered were shown to be relevant for the emerging SaaS-enhanced financial services market from a multi-level perspective in a previous study done by Teracino and Seo (2013). SaaS as a technological breakthrough, and its increasing adoption, allows for servitization, however prior to this previous study, there was no integrated framework to view the factors most relevant to increasing servitization via SaaS adoption. The study by Teracino and Seo (2013) views SaaS adoption next to the historical case of what occurred in the telecommunications and broadcasting industries during and after the adoption of Internet Protocol (IP) as a standard allowing for services to merge via the network level. SaaS adoption also allows for services to integrate, however via an application level, and thus this comparative case was conducted in order to yield initial insights into potential factors that have importance for firms entering the emerging SaaS-enhanced financial services market. A systematic review of the literature was also conducted in order to create a multi-level framework. On the firm level of the framework, organizational changes such as pricing model changes and SaaS adoption itself are found relevant; on the inter-firm level, firm collaborations and competition revolving around ties with ERPs are found relevant; and on the regulatory domain, regulations and technology evolution are noted as relevant.
In this current study, these factors were matched accordingly to each of the precondition’s domains to allow for a base for operationalization during data collection and analysis. The cognitive domain in this study takes the firm level, and thus SaaS adoption and pricing model changes are explored on this domain. For the normative domain, which takes an inter-firm perspective, factors revolving around the perceptions involved in choosing ties found to be relevant are explored: an ERP tie’s technological ability, SaaS service channel(s), personal relationship and positioning. For the regulative domain, industry level factors identified as relevant for servitization are explored, including regulations and the implementation of technology standards. If technology standards are enforced for both initiators and adopters on this domain, this would facilitate the connections between both SaaS to traditional solutions and SaaS to SaaS solutions. In exploring these factors on each of the domains, this allows for a more contextually related exploration of the perceived pressure of the preconditions experienced by the adopters while mobilizing for servitization.

![Figure 2. Institutional Preconditions Explored by SaaS Adoption Factors](image)

Mobilization activities can be influenced via each domain in the banking industry to different degrees. Firms carry their institutional preconditions with them into a new market setting, and this can significantly affect the negotiations necessary to form ties for the purpose of mobilization (Ozcan and Santos 2009). Once the institutional preconditions of banks have been understood and considered, this understanding can lend insights into whether banks will mobilize.

**Methodological Overview and Context**

Given the limited studies on whether and how firms mobilize, an exploratory qualitative case study was the chosen method (Yin 1994). This type of study is particularly appropriate for developing theoretical insights when the focus of the research is one that extant theory is unable to address fully (Ozcan and Eisenhardt 2009). Data on two banks were collected to allow for comparison, allowing for the results to yield more generalizable findings than a single instance would (Eisenhardt 1991; Yin 1994). The setting for the study is the accounting industry in a Northern European Country (NEC), which is appropriate due to a recent increase in adoption of the software-as-a-service model in this region. Banks in this environment have the increased possibility to utilize SaaS principles via SaaS ERP solutions to service their end customers. Also, the banking industry is more susceptible to institutional pressures (Greenwood and Suddaby 2006), which allows for a prime example of industrial preconditions. Additionally, given the many national regulations, it provides an isolated setting for the time being. The
The focus of this study is on banks that have ties with ERP firms and are offering SaaS services to their own end customers, often through SaaS ERP solutions of which their own end customers are also end users. In short, it is not uncommon for ERP firms and banks to have an overlap in their end customer base in this market. Banks were chosen that have ties with the market leading ERP software firms in NEC currently providing SaaS solutions to ensure their participation in the emerging SaaS-enhanced financial services market. Not only are these banks market leaders, but they currently service a portion of their customers via the ERP firm’s solution to some degree. The banks are called Bank 1 and Bank 2 in this study. Of the four banks in NEC with the highest market position, these two are the only ones who have made a vested effort to deliver services via SaaS. Bank 2 has the higher market share over Bank 1; however, Bank 2 now faces an immediate need to reduce operational costs, whereas Bank 1 has done so in the recent past. Bank 1 and 2 consider each other fierce competition. Since both began as traditional banks, in the sense that prior to considering SaaS all services were offered via traditional means, they are both influenced by similar institutional preconditions as well. Table 1 gives an overview of the interviewees at Banks 1 and 2. For Bank 1 there were three interviews: one interview per interviewee. For Bank 2 there were four interviews: one interview for interviewees B1 through B3, and one interview with both B4 and B5 present. With the capability of interviewees to answer questions high, both relevant and ample hard and soft data was collected.

<table>
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<tr>
<th>Interviewee</th>
<th>A1</th>
<th>A2</th>
<th>A3</th>
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<tbody>
<tr>
<td>Position</td>
<td>Product manager for the ERP coupling</td>
<td>IT architect</td>
<td>Head IT architect</td>
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<tr>
<th>Interviewee</th>
<th>B1</th>
<th>B2</th>
<th>B3</th>
<th>B4</th>
<th>B5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Position</td>
<td>Product manager for the ERP coupling</td>
<td>Innovation Manager</td>
<td>IT architect</td>
<td>Business architect</td>
<td>Head Business architect</td>
</tr>
</tbody>
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Table 1. Overview of Bank 1 and 2 Interviewees

Since ties are essential to entering this market, the three market leading ERP firms in NEC are discussed in depth during interviews and are henceforth referred to, in order of market share and position: ERP 1, ERP 2, and ERP 3. Other ERPs will be grouped together and discussed generally as they were not considered main players by both banks at the time of the interviews. Table 2 gives an overview of the relevant ERPs.

<table>
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<tr>
<th>ERP</th>
<th>1</th>
<th>2</th>
<th>3</th>
</tr>
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<tbody>
<tr>
<td>Market share for SMEs</td>
<td>Highest</td>
<td>Highest of the lower end</td>
<td>Not far behind ERP 2, but lowest of all three</td>
</tr>
<tr>
<td>Perceived positioning and focus via Banks</td>
<td>Product leader One of first to offer SaaS version</td>
<td>More of a focus on customization of packages</td>
<td>Tailored more towards accounting firms</td>
</tr>
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</table>

Table 2. Overview of relevant ERPs

Accounting firms, referred to generally during the interviews, are any accounting firms either most active in this new market, or the larger accounting firms holding strong market positions. The banks considered in this study are all of a similar size, because smaller, more entrepreneurial firms are assumed to and tend to have fewer resources and subscribe less often to institutional preconditions than more established, larger firms (Katila et al. 2008; Greenwood and Suddaby 2006). Choosing banks of similar size, larger
and thus more engrossed in their institutional environment and influenced by institutional preconditions, allows for the assumption that they would be less likely to mobilize as quickly, or with as much initial gusto, as smaller, more peripheral actors (Maguire et al. 2004). However, it has also been shown that those more embedded in an institution, or affected by institutional preconditions, particularly in the financial sector, can still be exposed to conditions that allow for more reason to mobilize (Greenwood and Suddaby 2006). Interviewing interviewees from banks of a larger size allows for these possibilities to be kept in consideration. This study’s scope is restricted to that of larger banks of leading market positions.

Data Collection

Data collected was qualitative in nature and collected from multiple data sources: (1) semi-structured in-person interviews with relevant executives at the focal firms, and (2) informal emails, phone calls and observations surrounding interview interactions of the main researcher. These were used in triangulation. Preliminary analyzes and results after each interview were used to enhance the following interviews via updated questionnaires. The results were coded with MAX-QDA software and analyzed via the themes and topics used during the creation of the questionnaires. Questionnaire themes and topics of the semi-structured interview questionnaires stemmed from a multi-level perspective: regulations and technology evolution on the industrial level, firm collaborations and competition on the inter-firm level, and organizational changes on the firm level. All of these themes stemmed from the SaaS adoption factors on each domain. These were expanded into more specific questions to cater to what is occurring now for banks utilizing SaaS to service their customers, including general perceptions of SaaS adoption, perspectives on roles that ERP firms and accounting firms play now and will play in the future, security concerns, perceptions of market trends, the development of standards, and pricing. Some examples of questions for regulations related to the technology standards being introduced by NEC’s government. For technology evolution, questions about which functionalities could increase the value of services were asked as an example. For firm collaboration and competition, questions revolving around the important criteria for choosing an ERP and perceptions of potential collaborators and potential non-traditional competition from different sectors were asked. Organizational changes were explored via questions about new pricing models and moving to a product-as-a-service model.

While questionnaires were developed for interviews, the interview process contained a mix of closed-ended and open-ended questions which allowed for open ended narratives data (e.g. intended strategy, collaboration postulation). Those who have also played a significant role in the transition to SaaS and/or also have high level of IT knowledge or background relating to the SaaS service channel were chosen as interviewees. At each bank interviews were conducted with those in various positions related to the data connection between the bank and ERP solutions being offered to SMEs specifically. Because of this structure, interviewees were also able to give their perspective on how their firm and their peers view SaaS adoption and entering the market, e.g. the challenges and opportunities, from a more macro perspective. This allowed for a fuller account of not only their personal perceptions of the firm’s current position, but how the banking sector currently perceives the market and what would be needed for an increase in servitization. While a limitation of the data collection process was that only two banks were considered, the two that were are both the main players in NEC, and both currently utilize SaaS as a service delivery channel. Further, multiple interviews at each bank were conducted, with a mix of interviewees from IT and business related departments. This provided a more complete picture of the challenges and opportunities faced during SaaS adoption and working with ERP firms from both IT and business standpoints.

To address potential informant bias, interview techniques were used (e.g. ‘courtroom questioning,’ ‘event tracking’, and ‘nondirective questioning’) that previous research has deemed effective in ensuring accurate data retrieval (Huber and Power 1985). For courtroom questioning, certain closed questions were asked, amidst a majority of open-ended narrative (e.g. intended strategy), and interviewees were pressed deeper with follow up questions when certain questions yielded more broad answers. For event tracking, interviewees were asked to explain when and how SaaS was first approached as a necessary investment, why they got into certain ties, and/or how these changed over time. For the nondirective questioning, questions with specific constructs, such as ‘what if’ scenarios, were held to the end of the interview when possible. To further address potential informant bias, confidentiality and anonymity were promised to interviewees to encourage candor (Ozcan and Eisenhardt 2009).
Results

With regards to the observable mobilization activities, bank 1 has both SaaS to on-premise and SaaS to SaaS connections with 11 ERPs while Bank 2 has the same situation with 12. Both were agnostic towards the ERPs. The ERPs’ services are more enhanced from the data exchange connections than that of the banks’. For example, banking transaction data enhances the ERP’s book keeping service for end customers and payment information updates are sent to the bank, but end customers still have to authorize actual payments from the bank. As a result, the ties remain simple data exchanges and from the perspective of the end customer, where two entities are still providing two separate services albeit connected (see Figure 1). Neither bank has pursued further enhancement of their own SaaS service via data from the ERP. Further, neither bank is pursuing further servitization such as a new joint SaaS offering with any one ERP.

The resulting perceptions of the interviewees regarding the influence of the preconditions from the banking industry as explored via the adoption factors will be discussed in the following order: (1) on the cognitive domain: SaaS adoption and the product-as-a-service model and pricing (2) on the normative domain: the importance of technology, SaaS delivery channel(s), personal relationships between ties, positioning, and security assurance (3) on the regulative domain: the importance of professional standards, rules and laws and the implementation of technology standards. Table 3 in the Appendix provides a summary of the overall results. Figure 3 provides an updated conceptual overview of the operationalization of the institutional preconditions. The ability of an ERP to assure data security was a factor identified specific to the case of the banks and was added to the factors used to further explore the normative domain / inter-firm preconditions.

SaaS Adoption (Cognitive)

To begin, interviewees were first asked when they first heard of SaaS and to generally discuss their first encounters and opinions in relation. Open-ended questions such as ‘what do you think of SaaS’ and ‘is SaaS an opportunity or a challenge’ were used to begin the interview generally. For both banks, there is a general assumption that moving to a SaaS business model will be necessary in the future despite a cognitive understanding that banks hold on longer to traditional means more than other sectors (Greenwood and Suddaby, 2006). Interviewees at Bank 1 note that accommodating to SaaS is inevitable,
regardless of whether it’s perceived as an opportunity or a challenge. Bank 1’s interviewees tended to have a hope that the SaaS era will allow for greater differentiation between banks (A1) as all of Bank 1’s interviewees had the feeling that Bank 1 was better apt to use IT to differentiate from Bank 2. B2 of Bank 2 similarly notes that moving to internet banking was necessary for survival. In summation, both banks perceived low pressures from institutional preconditions on the cognitive domain and, in mimetic fashion, felt it necessary for competitive survival to pursue SaaS adoption.

**Product-as-a-Service Model and Pricing (Cognitive)**

Once banks make the decision to adopt SaaS, they can add value to their end customers by linking with ERP solutions the end customer users. By allowing the ERP solution to access the end user’s banking data in real-time, end customers can experience two services essentially at once. Both banks at present allow for this data connection as a free service to end customers. The current model between ERP firms and banks is ‘each man for himself,’ meaning banks pay their costs for the connection and ERP firms pay theirs. This remains true despite the size of the ERP firm and/or their customer base, and it is also the case for both banks. A3 of Bank 1 postulated that in the future they may charge some of their end customers but that it was impossible to tell at this time. Bank 2 did not see end customers ever being charged however. B1 notes that Bank 2 just sees this as an additional feature for our customers, as just one part of a larger internet banking package. Regarding the connection costs, B1 noted that it could be possible that Bank 2 begins to charge some of the smaller ERP firms they may partner with in the future a percentage of the costs to set up the connection. B1 elaborates: every party pays their own costs. But now we have these couplings with larger book keeping companies but if a smaller [book keeping] company comes to us, well we’re thinking we haven’t decided yet but we’re thinking of charging them for 80% of our costs. Our testing costs because that’s the most, well something like 50,000 Euro per coupling just for an interface, and well I think that’s fair because if a company shows up with 100 or 500 customers, then our interest is not that big. However, when asked if all of a small ERP firm’s customers were also Bank 2’s customers, it was noted that if the customer base were of specific interest to Bank 2, then charging the ERP firm in this manner would be considered on a case by case basis. Overall, both banks have not made any decisions or movements regarding pricing changes. Preconditions via the cognitive domain could have been expected to have influenced pricing alterations, as on the firm level operational cost reduction is often a major priority in the banking industry. Since costs have been accepted, due to a mix of uncertainty and customer demand, it could be explained as a lack of pressure from the cognitive domain on this factor of pricing and product-as-a-service.

**Technology of ERP (Normative)**

Technology, in this study, refers to the importance of an ERP having the latest technology / being at the forefront of SaaS adoption and offerings. For both banks this aspect was not stressed as being as important as it was in the case of the SMEs. It was more important that the ERP service a customer segment that was of interest to the banks. How customers were serviced (by SaaS or traditional means) was not important. Since larger customer segments were sought out (i.e. ERPs with high market share), it was assumed by Bank 2 in particular that if these ERPs serviced a large amount of customers, their technological ability and service offering would meet the bank’s general requirements in this regard. Bank 1 did stress that as customer size increased, a higher need for customization would come into play. The ability to provide this type of customization would then become more important. A1 sums this sentiment up by stating it’s all about segmentation, the bigger your client gets the larger the need of customization and the smaller they get the more room there is for standardization. They [ERPs] differentiate of course in price, and functionality and some of them are better at it than others. In summary, this has a perceived medium-low level of importance on the normative domain, as it would be considered important for larger customers. For the SME, market size of the customer base of the ERP matters more than the technological abilities of the ERP solutions, on-premise, or SaaS, for the time being.

**SaaS Delivery Channel (Normative)**

Delivery channel, in this study, is defined as the importance of servicing customers through SaaS, more specifically through an ERP. This method of servicing customers through a SaaS delivery channel, as
initiated by ERPs, is clearly of importance in choosing which ERP(s) to create ties with. This is particularly relevant for banks as adopters as they are in a position where offering this service (for both banks) was deemed inevitable and necessary for survival. Customer demand was specifically noted as a main driver of this factor by both banks. Both banks, particularly the IT architects of Bank 1, mention that this could maybe be a way to differentiate from each other (A2 and A3); however, it is also noted by all interviewees as a challenge that this service is easily replicable. Thus there is little pressure from the normative domain perceived by the interviewees at both banks that would hold the banks back from seeing the importance of utilizing SaaS as a delivery channel and doing so through the ERPs.

**Relationship with Ties (Normative)**

Personal relationships between ties, in this study, are defined as the b2b relationships (e.g., personal, trust) with ERP tie representatives. It can be noted that personal relationships between ties for the case of adopters from the banking industry are of lesser importance, as noted by all interviewees. This lack of importance may also be enhanced by not only preconditions but also the nature of the core value of the banking industry, noted by interviewees to lie in focus on operational cost reduction and servicing a quantity of customers. It was noted by all that unless these relationships are of any hindrance to business, it was not a main concern. B4 and B5 of Bank 2 sum this up by agreeing that the solution to the problem matters first; then the relationship between representatives would be looked at. In summary, for this factor on the normative domain, precondition pressures were perceived as medium by both banks.

**Positioning (Normative)**

Positioning, in this study, is the importance of the market share and position of an ERP tie. SaaS adoption across sectors allows for the ERPs to assume a position to become a SaaS service initiator in a sense (Iacovou et al. 1995; Teracino and Seo 2013). With this in mind, in choosing a tie with an ERP, banks may see the opportunity to create ties with the other ties of the ERP to further enhance their services by leveraging off of the ERP’s network. For example, if accounting firms also have ties to the same ERP that a bank has ties to, it is possible that the bank could offer more services than simply online banking that may coincide with accounting firm service offerings via SaaS. At present, the banks have yet to purposely enter the accounting arena. Despite the potential for competition for more basic services between these two adopters, A1 of Bank 1 likens banks and accounting firms to Facebook and Twitter, in an effort to explain how they can co-exist. When faced with the question of potential competition from accounting firms as one example, Bank2’s B4 reflects this sentiment, shared by both banks, in stating, I think we would look at it from a different point of view: how could the united banks provide these kinds of services instead of how can we beat our competition (between banks) and get a unique offering. B1 of Bank 2 does note the possibility of another scenario in which an accounting firm and bank could link up exclusively: It could also be possible that accounting firms directly couple to Bank 2. That’s a possibility as well. Despite such awareness, the possibility to leverage off of the ERP’s network of SaaS services was not deemed a relevant quality when choosing to create ties. A1 notes: we’re not looking for 11 big names on our website, we’re looking for a complete proposition for the entire [segment] of clients that we have, and if one of them decided to join the partnership with [large accounting firm] or something, I don’t think that matters to us. What does matter to us is if Bank 3 or Bank2 connects a new ERP system, well, we would ask ourselves if we would like to connect that as well. A2 notes, however, that Bank 1 is aware of the possibility that the ERP could become central to the network of services, or in other terms, the main hub of service provision. A2: ERPs are integrating one system, and the bank is just one [of many] that’s going to integrate to that ERP system and I think that’s going to happen. I don’t think we can turn it around and say the bank is the center of the universe. A1 concurs and adds: I think we just have to face the fact that we are just one of a lot of processes, clients work with every day. In that aspect, a banking module in an ERP system would be great for our client, but I don’t think banks are going to be willing to give that away.

Despite seeing the potential to become one service in the ERP’s network, there is a reluctance to integrate services further with any one ERP. Instead, both banks see the ERPs for their customer base mainly when choosing to link to them. Bank 1 currently is linked to 11 ERPs, and Bank 2 is linked to 12. The main criteria for ERP links begins with the customer base. B1 explains that it’s important first that they have a pretty good client base, and our figures are for every 10 customers every book keeping company has, 4
of them are a customer of Bank 2. When asked if an ERP servicing a smaller customer segment of 100% of Bank 2’s customers would be considered, B1 said it still depends on the customer base, if it were to be of specific interest to Bank 2 [notes sports as an example] then maybe. It’s a case by case basis, but ultimately the customer group matters most, next to the customer size. The preconditions from the banking industry regarding servicing a quantity of customers for the lowest operational costs is clear in the choices of which ERPs to work with for both banks interviewed. Essentially, both banks prefer to remain autonomous with regards to working with ERPs, which limits the level of servitization both banks would pursue. In summary, for this factor on the normative domain, precondition pressures were perceived as high by both banks.

**Security Assurance (Normative)**

Security assurance with regards to the choosing of ties refers to the extent to which ties are considered able to maintain the security of the end customer data. This was added to the adoption factors after data collection and analysis confirmed this as a relevant factor for both banks. Concerns focused around the security of customer data that the banks hold. The ability to keep control over data security, particularly when connecting services SaaS to SaaS, was noted as a concern. A2 points out that the identities and keys of customers would have to be kept internally, and that in the cloud it would have to be impossible for other parties to do anything with [this data]. Bank 2 felt similarly and also pointed out that there is not only a high importance placed on this factor in the industry but also stressed that it will be a challenge in mobilizing towards SaaS to SaaS connections. While at the moment the connections with ERPs do not afford a security concern, these may come up as servitization evolves in the future. For now, Bank 2 has its own set of specifications that all parties have to adhere to or they cannot connect with Bank 2. B4 even explains that at present security controls of all parties make it almost impossible to do SaaS for some services. B4 then also states that it would be unthinkable that we would outsource our CRM system. Because it's our customers, so no one should touch them. While at present data security has a high importance, it is currently less of an issue as servitization and the development of potential service networks via ERPs as the initiators has yet to unfold. However, banks do feel that in the future, as more and more adopters link services via SaaS, this factor will increasingly become a concern and could delay banks’ movement towards servitization. Thus, for this factor on the normative domain, precondition pressures were perceived as high and hindering mobilization for servitization.

**Professional Standards, Rules and Laws (Regulative)**

This factor refers to the perception of the interviewees of the importance placed on adhering to the professional standards, rules and laws of the banking industry; it has a high influence on the firms in this industry. Since firms interviewed previously offered services in a traditional manner prior to SaaS adoption, preconditions likely influenced how firms went about their social and commercial activities (Scott 2007). Banks must follow general laws and policies regarding the provision of services such as payments and loans. Failing to follow these rules can result in penalties ranging from legal fees to loss of privileges to practice. All interviewees denoted the highest importance of avoiding such a scenario. Straying from the long standing professional standards, rules and norms in this industry could drastically reduce a firm’s legitimacy (Greenwood and Suddaby 2006). B5 noted a recent increase even in this pressure in stating that from a regularity point of view, we are going back to rule based, so the demand on quality of the data is getting higher every day. A2 also notes that potential future outsourcing of where the data will be hosted could further complicate the ability of banks to adhere to regulatory pressures, a growing concern, and states: now we have all of our applications running in a private off premise environment, and if you would outsource that...that will intensify the audit efforts enormously. The concern to operationally and internally audit all processes to ensure adherence to industry regulations is clear even before servitization became possible. Thus, this precondition on the regulatory domain could clearly be a hindrance to mobilization.

**Implementation of Technology Standards (Regulative)**

This adoption factor refers to the implementation of technology standards on the regulative domain by NEC’s government. There have been efforts to create and enforce a Standard Business Reporting (SBR) program that would, for example, standardize the formatting and creation of reports. Extensible Business
Reporting Language (XBRL) is the technical coding language used in SBR. ERPs have begun to implement the use of this language within their software which facilitates the use of SBR. All interviewees noted the importance of following banking protocols as regulated in NEC, and all noted that the adoption of these standards by ERPs was important to them as a result. Namely, they noted that added value for the banks would occur only if all ties were all able to implement these standards in the near future. In other words, if only a few firms implement this, then its importance would be decreased. As noted that if they all don’t use SBR then it does not add value to the banks. This is an indication of the perception that banking practices are more often than not able to be standardized and that the current core focus is on adding value via operational cost cutting, not necessarily improving services. Thus, institutional preconditions regarding the importance of standardization of the technology was perceived as having a high importance by all interviewees.

What was of greater interest to both banks was the possibility of setting up a third party to handle all of the ERP connections- a middle man, in a sense. Standardizing the process and procedure to allow ERPs to connect with the banks was noted as a desirable potential route for the future. The idea is to reduce the number of customized service contracts with each ERP in an effort to streamline the addition of future ERP vendors and facilitate the management of current connections. While Bank1 leans particularly in this direction, Bank2’s B4 and B5 contradict this by also noting that Bank2 is one of the largest IT forces in the market and would, as a result, be cautious in outsourcing this potential middle man role. More likely, Bank 2 would first look internally to see if they could develop such an entity to manage all of the ERP connections. The perceived importance of the implementation of technology standards, as well as procedural standards as regulatory institutional preconditions is high and causes resistance to move forward with servitization with ERPs at this time.

**Summary**

In summation, both banks are engaged with multiple ERP ties via data exchange connections and have not demonstrated intentions to mobilize for further servitization. Both banks perceive the strength of the pressures from all domains similarly. The notable exception being that bank 2 feels slightly less pressure from the normative domain, specifically with regards to procurement to product-as-a-service and pricing factor. Bank 2 was closer to altering the charges for ERPs when connecting services, whether SaaS to on-premise or SaaS to SaaS services, whereas Bank 1 had not considered it as an option in the near future.

**Bank 2 Mobilizes in a Different Direction**

It should be noted that while neither bank mobilized to a high degree of servitization with regards to the ERPs, Bank 2 mobilized in another realm. While Bank 2 was similarly agnostic towards ERPs with regards to servitization, it has acquired a company that has ties to multiple Point of Sale (POS) systems and cash register systems (‘kassasystems’ as noted in NEC) at many local businesses (commercial), so end users (retail) can enact payments via a mobile application as a service. For example, with Bank 2’s new mobile app, orders and payments at a restaurant can be made directly by retail customers to the restaurant’s system. Other industries include: retail stores, bars, hotels, parking, movie theaters, clubs and associations, special event management, and some Web stores among others. Retail customers are not charged to download the app nor are they charged for making payments with the exception of a small extra fee for parking services. On the commercial side, there are further options to white label this service and even further integrate it into the kassasystems. From the end customer perspective, this is a new integrated service offering from one entity. This entails a higher level of mobilization for servitization but not with relation to ERP solutions. Instead, these SaaS ties to kassasystems to provide services to retail customers can be seen as a potential competitive move from the perspective of the ERPs, as ERP solutions and the bookkeeping aspects of kassasystems are fairly similar in their offerings to SMEs.

**Discussion**

On the cognitive domain, both banks felt little pressure that would hinder SaaS adoption, and only medium and medium-low levels of pressure with regards to pricing model changes. As a result, the first stages of servitization at both banks were well underway. However, both banks are aware of a changing landscape of how business will be done in the future. This new landscape could provide new competition
from other industries, yet neither bank is mobilizing to a significant degree with the initiating ERPs. Why are the banks holding back? Both banks perceived nearly identical amounts of pressure from each domain, which may have influenced mobilization.

It was found that the highest pressures from institutional preconditions were perceived as stemming from the regulatory domain. One reason could be that in facing similar regulatory preconditions, which were deemed by both banks as of the highest importance, banks feel most comfortable mobilizing amongst each other rather than facing competition outside of their industry. This could also potentially explain why higher levels of mobilization are not underway, as regulatory conflicts could increase as servitization becomes more and more synergistic, or in other words, as industry lines blur during more intensive joint efforts.

With regards to inter-firm activities, the perception of both banks as to the influence of pressure from the normative domain on the importance of factors related to choosing ERP ties was medium, overall. Both banks felt similar levels of pressure with regards to each factor. The low perceived pressure on this domain with regards to the importance of servicing customers through an ERP SaaS delivery channel could explain why both banks actively do so. Both banks felt autonomous towards the ERPs, which could also be explained by the perceived preconditions. The perception of the importance of the market share and positioning of an ERP tie was deemed high by both banks, which could explain why both banks remained agnostic towards the ERPs. The perceived pressure via this factor on this domain emphasized valuing ERPs for their size and type of customer base mainly, and appeared to override the potential to exclusively choose one ERP tie even if that could mean better services via higher levels of servitization. It should be noted that an ERP’s ability to ensure data security during higher degrees of servitization was an adoption factor that was identified as relevant for the banking industry specifically. In addition, both banks felt high pressure with regards to this factor. This could explain why opportunities for further added value from more in depth content exchange hasn’t been pursued (i.e. asset based finance).

The results suggest that the preconditions do influence mobilization activities. It is possible preconditions could potentially hinder or foster mobilization activities when perceived as stronger, depending on the nature of the preconditions. It could also be that high perceived pressures with regards to just one factor could hinder or foster mobilization itself, and this should be further tested. It is interesting to note that Bank 2 did mobilize, but it did so with ties from other industries.

**Conclusion**

This study aimed to explore whether, and if so how, firms will approach mobilizing potential allies to join their vision to create and drive a new market when ties with numerous dispersed actors is required to do so. Further, this study explored the role of institutional preconditions firms face while engaging in mobilization activities. These are both explored within the context of increasing SaaS adoption. The perspectives of adopters, banks in this case, were taken. In utilizing qualitative semi-structured interviews to obtain data at two similar market leading banks in the same country currently utilizing SaaS, key SaaS adoption factors were explored from a multi-level perspective. These multi-level adoption factors were used to explore the institutional preconditions via three domains: cognitive, normative and regulatory. The factor of assurance of data security on the inter-firm level was discovered as relevant for this case during data collection and was added to the results. Results suggest that the perception of pressures from the institutional preconditions perceived by the banks did have an influence with regards to observed mobilization activities. It would be interesting to explore in more depth how the level of pressure from each domain influences mobilization for servitization in future research. It would be also interesting to see if these results also apply to smaller banks within NEC, as they are ‘less embedded’ within the banking industry, to see if the size of the bank has any impact on these findings. Limitations include looking at only two banks of similar size in one country. More in-depth empirical studies, such as case studies at ERP and other financial service firms mobilizing could provide deeper insight to the mobilization occurring between these industries. These findings could also be corroborated against other industries experiencing increasing SaaS adoption, such as the kassasystems.
### Table 3: Perceptions of the Influence of Institutional Preconditions from the Banking Industry on SaaS Adoption Factors

<table>
<thead>
<tr>
<th>Cognitive domain (firm level)</th>
<th>Perception of the importance of the technology of the ERP</th>
<th>Perception of the importance of the adoption of SaaS</th>
<th>Perceived benefits of adopting a SaaS-based Software-as-a-Service model pricing strategy</th>
<th>Change in pricing model just yet due to competition</th>
<th>Perceived benefits of adopting a SaaS-based Software-as-a-Service model pricing strategy</th>
<th>Medium-Low</th>
<th>Medium-Low</th>
<th>Medium-Low</th>
<th>Medium-Low</th>
<th>Medium-Low</th>
<th>Medium-Low</th>
<th>Medium-Low</th>
<th>Medium-Low</th>
</tr>
</thead>
<tbody>
<tr>
<td>Movement 1</td>
<td>SaaS adoption is important, but more so at the industry level</td>
<td>The connection is free, as possible</td>
<td>The type of ERP is valued for its utilization of the customer base for competition</td>
<td>If the market is needed for the business, this is not a main concern</td>
<td>wrist, if the customer base is of interest, they need to provide for survival</td>
<td>High</td>
<td>High</td>
<td>High</td>
<td>High</td>
<td>High</td>
<td>High</td>
<td>High</td>
<td>High</td>
</tr>
<tr>
<td>Movement 2</td>
<td>SaaS adoption is important, but more so at the firm level</td>
<td>The connection is free, as possible</td>
<td>The type of ERP is valued for its utilization of the customer base for competition</td>
<td>If the market is needed for the business, this is not a main concern</td>
<td>wrist, if the customer base is of interest, they need to provide for survival</td>
<td>Low</td>
<td>Low</td>
<td>Low</td>
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References


