Factors influencing the shaping of shared services business models
Balancing customization and standardization

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Abstract

Purpose – Shared services are often viewed as a single type of business model but in reality, shared services can be organized in different ways. The goal of this research is to understand the factors influencing the shaping of shared services business models.

Design/methodology/approach – Inductive case oriented research is conducted by investigating three different types of shared services arrangements using Al-Debei and Avison's unified framework for business models.

Findings – A total of 12 different factors were identified that influence the shape of shared services business models including the path dependency, legal/regulatory driver, customer orientation, target segment, strategic importance, ICT/business orientation, IT governance structure, change strategy, degree of outsourcing, integration potential, economic rationale and the business value.

Research limitations/implications – The level of customization and standardization can influence the potential benefits that can be gained from bundling services and it is important to understand the factors that influence this dimension.

Practical implications – The appropriate configuration of these factors can be helpful to design shared services arrangements with a balanced degree of standardization and customization. The choices regarding the configuration of these factors could result in a more or less effective functioning business model and could influence the governance processes and mechanisms that need to be put in place.

Originality/value – There is no prior research that addresses the shared services business model from a holistic perspective and this research provides a first conceptual model for shared services business models.

Keywords Case study, e-Government, Business models, Shared services, Customization, Standardization, Shared service centres

Paper type Research paper

1. Introduction

The business model (BM) concept is about shaping the relation between an organizational strategy and operational processes and systems (Hedman and Kalling, 2003). E-government business models aim at using the internet to add value to their constituents in areas ranging from service delivery to political involvement (Janssen *et al.*, 2008). In the (e-government) classification of business models, shared services are viewed as one type of business model (Janssen *et al.*, 2008). Yet recent literature suggests that in reality shared services might have different configurations (Niehaves and Krause, 2010; Borman, 2010; Janssen and Joha, 2006). Furthermore, the type of business model might change during the design and implementation phase (Ulbrich,

2006). At least, there are intra- and inter-organizational shared service models (Janssen and Joha, 2006) and networked and non-networked models (Niehaves and Krause, 2010). From this, we postulate that shared services could be viewed as an umbrella term referring to a range of business models.

Shared services are a collaborative strategy in which a subset of existing business functions are concentrated into a new, semi-autonomous business unit (Bergeron, 2003). A variety of business functions can be shared including IT (Lacity and Fox, 2008), human resources (Ulrich, 1995), financial services (Janssen and Joha, 2008) and payroll, and accounting services (Bangemann, 2005) and procurement (McIvor *et al.*, 2011). The degree of standardization or customization is an essential element in shared services arrangements (Braun and Winter, 2005) and influences how cost-efficient and effective services can be delivered (Morris *et al.*, 2005, Lampel and Mintzberg, 1996), often determining whether the introduction of shared services would be a viable option in the first place. Moreover, Ulbrich and Borman (2012) suggest that unbalanced process standardization could cause shared service centers to transition into less effectively functioning modes. Not implementing a standardized approach will hinder an organization from fully leveraging capabilities (McIvor *et al.*, 2011). There is no research available about a holistic view of shared services business models and the underlying factors influencing the degree of standardization/customization, and there is a research gap as such. The goal of this research is to understand the factors influencing the shaping of shared services business models in terms of its degree of standardization/customization based on three case studies. The identification of such factors can be a first step towards a more holistic understanding of shared services business models, which might help decision-makers to design the shared services business model in such a way that it would best fit their specific situation.

This paper is organized as follows. First, we briefly introduce the shared services and business model concept by reviewing various business model taxonomies, including Al-Debei and Avison's (2010) unified framework for business models that is used to analyze our case studies. In section three, we present our case-based research methodology. The case studies are described in section four, while the factors shaping shared services business models are identified in section five. In section six, we present the cross-case study analysis and section seven contains a discussion of the findings. Finally we draw conclusions and recommendations for further research.

2. Literature background

2.1 Shared services

Shared services or shared service centers (SSCs) can be viewed as a particular type of sourcing arrangement, where resources and services are retained in-house. There are many definitions of SSCs in the literature (for an overview see Singh and Craike, 2008; Schulz and Brenner, 2010), but generally an SSC is viewed as an accountable semi-autonomous unit within an (inter)organizational entity, used to bundle activities and provide specific pre-defined services to the operational units within that (inter)organizational entity, on the basis of agreed conditions (Bergeron, 2003). The variety of different SSC definitions might be seen as an indicator that more heterogeneity exists with regard to the types of business models underlying the SSC concept. Variety can be attributed to factors like motives (Janssen and Joha, 2006), strategic objectives (Hesketh, 2008), transformation approach (Lacity and Fox, 2008) and past cooperation (Niehaves and Krause, 2010). Braun and Winter (2005) use the

concept of standardization and customization to distinguish between shared services and customized solutions respectively. If services are adapted to suit the specific requirements of customers, it involves an individual, customized solution. If services are offered to multiple customers with no or a limited degree of customization, this is a standard solution which Braun and Winter (2005) refer to as "shared services". This is a narrow view as standardized services might be designed in such a way that they can be configured in several ways allowing for more customization. Hence, SSCs can provide both customized services and standardized services.

2.2 Business models

Timmers (1998) was one of the first to address the concept of business models in his seminal paper about business models for electronic markets. He defines a business model as "an architecture for the product, service and information flows, including a description of the various business actors and their roles, and a description of the potential benefits for the various business actors and a description of the sources of revenues" (Timmers, 1998, p 4). Afuah and Tucci (2000) define a business model as the method by which a firm builds and uses its resources to offer better value to customers. In the past, the focus has been on finding different BM taxonomies and although there are a large number of BM taxonomies available in literature (Afuah and Tucci, 2000; Timmers, 1998; Mahadevan, 2000; Rappa, 2002; Weill and Vitale, 2001; Bouwman and MacInnes, 2006), there is no generally accepted classification.

Recently, the emphasis has shifted from BM taxonomies to generic models (Hedman and Kalling, 2003). Al-Debei and Avison (2010) have developed a unified conceptual framework for business models based on a comprehensive review of the literature. Their framework is based on 22 different BM definitions, which represent different perspectives from which the BM has been perceived in the literature. As this framework seems to be currently the most complete synthesis of the existing business model literature taking into account a large number of elements, we have used this as a starting point for our research. Al-Debei and Avison (2010) distinguish four primary BM dimensions with their respective constituent elements that form an ontological structure describing a business model. First, there is the value proposition, which is about demonstrating the business logic of value creation through offering products and services that satisfy the needs of their target segments. The second BM dimension is the value architecture, an architectural blueprint for the organization that allows the provisioning of products and services in addition to information flows. The third dimension is the value network, in which an organization enables transactions through coordination and collaboration among multiple organizations. And finally, the value finance dimension refers to the way in which organizations manage issues related to costing and pricing to optimize its revenue creation.

3. Research methodology

The research conducted in this paper focuses on drawing a relationship between the type of shared services business models and its underlying factors. This research takes the elements suggested by Al-Debei and Avison's unified business model as a starting point, extending and refining these for shared services using a inductive case study approach for theory building as outlined by Eisenhardt (1989). The unified business model acted as a point of reference for the frequent backtracking and recursion in the research process. Based on the three case studies, we assessed which factors influenced

the shared services business model in terms of its degree of customization, which is an important BM characteristic to define shared services (Braun and Winter, 2005). Yin (1989) differentiates between descriptive, exploratory and explanatory types of case studies. A combination of exploratory and explanatory case study research is taken due to the need to build a theory showing that certain factors influence the configuration of shared services business models. This research is explorative in the sense that new areas (factors) are identified using the case studies and it is explanatory in the sense that the relationship between factors will be specified to explain the variety in business models. Retrospective case research is useful in our situation, since we are dealing with a broad and complex phenomenon, the existing body of knowledge is insufficient to permit the posing of causal questions and shared services business models cannot be studied outside the context in which they occur (Yin, 1989). This research can be described as a qualitative case study analysis, as the learning experience is investigated with reference to a specific event, the definition and implementation of a business model for shared services, in a bounded context (Creswell, 1994; Yin, 1989). In case studies construct validity, internal validity, external validity, and reliability should be addressed (Yin, 1989). Multiple sources of evidence as the way to ensure construct validity. Internal validity was achieved as during the case studies analyses the unified business model framework was tested and modified. External validity was achieved from theoretical relationships in the unified model and to make generalizations from this. A case study protocol that was developed based on the business model dimensions provided the reliability that is required. Dubé and Paré (2003) emphasize that rigor is an essential element in research based case studies and they consider a large number of attributes including the ones addressed by Yin (1989), with special reference to data triangulation, the presentation of sufficient quotes in order to allow external observers "to reach an independent judgement regarding the merits of the analysis" (Dubé and Paré, p. 620) and the comparison of the findings with the literature. In the cross-case study analysis, each of the identified factors influencing the shared services business model in terms of its degree of customization have been supported with quotes from the three case studies, while the discussion section provides an overview of the factors that have been found in the literature.

Case study selection influences the limits of generalization of the research findings (Eisenhardt, 1989). Based on theoretical sampling, we investigated three different case studies, which was thought to be sufficient at the beginning of this research to deal with a variety of different business models in-depth. The three cases were selected to represent a mix of centralized, federated and decentralized governance, as these are often viewed as an important factor influencing the organization (Peterson, 2004; Weill and Ross, 2005). Governance provides direction about the division of decision-making power and control of the SSC, the structure of the SSC within a company, the relationships with customers and whether the control and management is centralized, decentralized or federated (Earl et al., 1996; Hodgkinson, 1996; Sambamurthy and Zmud, 1999; Janssen and Joha, 2007). Moreover, all case studies were driven by different combinations of motives, in this way representing a variety of starting points. Although the case studies are different, there are significant similarities among them as they are all at the Dutch governmental level and have similarities regarding the maturity level of the SSC and the services that are provided by the SSC, even though the kind of services provided and the types of information systems did vary.

The SSC decision making process in these Dutch studies can be characterized by a participative approach, in which coalitions of usually two or three political parties were

in charge at each governmental level. in situations in which coalitions of different political parties are in control, only decisions can be made that are based on consensus and this decision strategy is found in the very nature of the Dutch political and cultural landscape. As such, many factors are taken into account for governmental decision processes, as was the case in these three case studies, and a balance will have to be found between all of these factors, providing a rich basis for the identification of relevant business model factors. The case study investigation followed a triangulated research strategy (Yin, 1989). The cases were investigated reading reports and documents and complemented with interviews. The centralized case study was investigated by interviewing the SSC director, an account manager, two ICT staff members and two SSC customers. Furthermore, one workshop was attended to better understand the shared services model. In the federated case study one SSC customer and one SSC staff member were interviewed, whereas one SSC customer and one manager were interviewed in the decentralized case study. The documentation included internal documents such as internal memos, e-mails, reports and presentations, but also publicly available documents such as press releases and magazine articles from ICT related magazines such as Automatiseringsgids and Computable. Interviews and documents were analysed using the business models framework with functions as our normative framework. Possible factors affecting were identified.

4. Case studies
In this section the three case studies will be described and Table I provides an overview of the main characteristics of the case studies.

4.1 Case study 1: centralized shared services
Most Dutch public agencies used to be able to design their own information systems and to choose appropriate software vendors. Developing, buying and sourcing was highly decentralized and, as result, huge duplication efforts occurred, creating a heterogeneous IT system landscape providing similar functionality. The awareness of this fragmentation and the need to bundle the efforts, made the Ministry of Interior in

	Case 1: centralized shared services	Case 2: federated shared services	Case 3: decentralized shared services
Maturity level	Mature: initiated in 2001	Mature: initiated in 2001	Mature: initiated in 2004
IT governance structure	Centralized entity takes all decisions	Federated; parts remain autonomous and are federated in a coordinating entity	Decentralized: each organization has a demand/supply relationship with the SSC
Driver(s)	Cost reduction, efficiency	Skills, continuity, quality, efficiency	Legislation, skills, quality, continuity, efficiency, synergy
Services delivered by the SSC	IT services, including e-form generation, authorization and registry services	IT services, including infrastructure and technical desktop services, system and application management	IT services, including help desk, application development, maintenance and control, and IT procurement

Table I.
Main characteristics of the three shared services case studies

cooperation with the Dutch Municipality Association decide to create a central knowledge-sharing and IT-development organization aimed at supporting local organizations in developing and implementing IT. Several types of shared services are provided, including identification/authentication modules, form generators and a service bus. The idea is that local agencies are the problem owners, but the problem is solved at the central level. This should result in economies of scale and solve the scarce capacity of IT experts. As the services are provided to many agencies, and in order to minimize the governance efforts, a "take it or leave it" approach was adopted and no customized services were offered. The value proposition is to offer standardized services by a newly created SSC, initiated by the central government, for a large audience, which can be integrated in the business processes of customers. During a workshop with involved stakeholders it was mentioned that "there is a fair balance between the cost that will be shared and the quality of the shared services that will be received. Software vendors can be managed better, there are less licence costs and more functionality is offered". The value architecture is to offer technically oriented, non-core services hosted in a secure cloud in which the SSC ensures that these services are frequently updated to match the state of the art in technology and changing customer needs. The value network is centrally managed and governed towards the SSC customers and also the software providers, as the development and maintenance of the software has been outsourced. Given that the SSC provides similar services for all public agencies, it can be regarded as an intra-organizational arrangement. The finance value originates from a strong cost savings focus and leveraged economies of scope by specializing on delivering a limited number of transactional services.

4.2 Case study 2: federated shared services
The internal IT department of a municipality has become an IT-service provider, delivering technical infrastructure and desktop services, application, system and database management services to other municipalities. The geographical reach of this shared service provider is limited to neighboring public organizations. The municipality started to provide only some ICT services to a neighboring municipality, but is now providing services to more municipalities and although there were also some efficiency reasons, the main objectives to initiate the SSC were non-cost focussed. A staff member of the SSC said "the municipality wanted to retain control over their own ICT department and didn't want to get into discussion with external IT providers about its core services", which is the reason why they decided to become an IT provider themselves. The services provided are partially customized for each municipality as they require different kinds of services with different service levels, though the same ICT platforms and application systems are used for all. The value proposition is to offer both standardized and customized services by an existing IT department of the largest municipality to a limited amount of smaller neighboring municipalities with different requirements. The value architecture is to provide both technically and business oriented services, such as non-core IT infrastructural services including network and desktop support and core services such as application management with regard to and the execution of citizens' work, income and care support respectively. The value network is federally managed, with business decisions being taken by customer boards of the other municipalities. The ICT department provides services to both its own municipality and to other municipalities that want to make use of a selection of similar services, while standardized network services have been outsourced to a third party. The change strategy was incremental, with only one

municipality being added each time to a portfolio until a good and reliable service delivery was realized. The finance value was justified by the fact that the smaller municipalities could benefit from economies of scale for certain transactional services and for non-transactional services the vulnerability could be reduced by having a larger pool of expertise available, while efforts necessary for the transition to a new information system could be minimized.

4.3 Case study 3: decentralized shared services
Six municipalities acted autonomously in the past and developed, controlled and maintained their own IT services. The capacity and resources of each single municipality were too limited for developing new types of services and the departments were often not able to gain access to the expertise needed and to consolidate experiences. Moreover, the capacity and resources needed to be downsized because of the reduction of budgets. As a result, the six small- and medium-sized municipalities recognized the need to share services and started collaborating in a network of public agencies with respect for their own identity. IT activities, employees and other resources were unbundled from each of the six municipalities and concentrated into a shared service center. The SSC employees also spent time at the other municipalities to learn from each other and to ensure they were able to quickly respond to local needs. The SSC was founded as a legal entity having its own responsibilities and accountable to the board of directors. The board members are representatives from the participating municipalities which represent the supply side, whereas the SSC has its own director. By creating a SSC, the municipalities gained access to more skills and expertise and were able to develop new systems and services. Prior to the introduction of the SSC, the maintenance and control efforts consumed almost all IT resources. The value proposition is to offer mainly customized IT services by a newly created SSC for six municipalities with different requirements. The value architecture is to provide business-oriented IT services, but also central IT procurement. The SSC manager told that "for IT suppliers we have become a more serious partner because of our collaboration network, resulting in more economies of scale", for example with the procurement of mobile phones for all municipalities. The value network is managed from a decentralized level as each of the municipalities initially had quite different service requirements, though there were efforts to standardize systems as a future vision. This would be done in an incremental way by phasing out legacy applications first. The finance value was justified by the fact that the smaller municipalities could benefit from certain economies of scope by combining IT procurement, and for non-transactional services the vulnerability and risks could be reduced by having more resources and expertise available.

5. Factors shaping shared services business models
The three case studies were analyzed in detail using the unified business model framework by Al-Debei and Avison (2010), as this framework currently seems to be the most complete synthesis of the existing business model literature. The constituent elements of the four BM dimensions, as defined by Al-Debei and Avison's framework, are listed in the second column of Figure 1 and were used as a starting point. In order to identify the factors influencing the customization dimension a directed content analysis was conducted (Hsieh and Shannon, 2005). All case study documentation and interview transcripts were analyzed by highlighting any potential factors related to these constituent elements that influenced the customization/standardization

Four BM Dimensions (Al-Debei & Avison, 2010)	Constituent Elements of the Four BM Dimensions (Al-Debei & Avison, 2010)	Identified Factors Influencing the Degree of Customization of the Shared Services Business Model in the Three Case Studies		
			Case 1	Case 2	Case 3
Value proposition	Product service	1) Path dependency in terms of whether it involves existing services and/or the creation of new services?	New services	Existing services	Both
	Intended value element	2) Legal and/or regulatory driver?	Yes	Partly	Partly
	Target segment	3) External and/or internal customer orientation?	Internal	Both	Both
		4) Generic and/or specific target segment?	Generic	Specific	Specific
Value architecture	Core resource	5) Core and/or non-core services?	Non-core	Both	Both
	Core competency	6) ICT and/or business orientation?	ICT	Both	Both
	Value configuration	7) IT governance structure?	Centra-lized	Federated	Decentra-lized
Value network	Governance				
	Role				
	Relationship	8) Change and relationship management strategy?	Big bang	Incre-mental	Incre-mental
	Actor				
	Flow communication	9) In-house operations and/or outsourcing?	Both	Both	Both
	Channel	10) Integration potential in terms of whether it involves similar and/or different organizations with similar and/or different processes?	Similar organiza-tions, similar processes	Partially similar organiza-tions, mainly similar processes	Partially similar organi-zations, mainly different processes
	Network mode				
Value Finance	Total cost of ownership	11) Economic rationale in terms of a cost and/or non-cost focus?	Cost focus	Both	Both
	Pricing method	12) Business value in terms of transactional and/or non-transactional services?	Mainly trans-actional	Both	Both
	Revenue structure				

Figure 1.
Factors influencing the degree of customization of the shared services business model in the three case studies

dimension. The factors were then compared and mapped with each of the constituent elements of Al-Debei and Avison's framework, resulting in a list of factors that influenced the shared services business model and were associated with one or more of the constituent elements. These factors have been listed in the third column of Figure 1. In accordance with the cross-case study recommendations from Eisenhardt (1989), we then listed the similarities and differences between the three case studies on each of these factors. The way these factors have been configured in the three case studies is shown in the last three columns on the right of Figure 1.

Comparing and mapping the factors affecting the customization dimension made it apparent that there is overlap between the four BM dimensions and that some constituent elements can considered to be redundant in a shared services business model context. Comparing the data from the case studies with the BM model in an iterative process (Eisenhardt, 1989), we identified the constituent elements that seemed to have similarities in common. The value network dimension mentions "governance" as a constituent element, but governance applies to the way network partners operate with each other and not necessarily to the governance of the internal organization, which is mainly addressed in the value architecture dimension. In four instances, different BM components as defined by the unified model were combined into one associated factor, as a result of the overlap and the similarities between these respective BM components. This was done for the IT governance structure, the change and relationship management strategy, the integration potential and the business value. Important attributes of IT governance are the roles and responsibilities of the people involved (Weill and Ross, 2005). The change and relationship strategy depends on the actors involved and the way the relationship with the actors is addressed, respectively. The integration potential depends on the number of organizations that the services can, or are allowed to be shared with, referring to whether it's an open or closed network (Pisano and Verganti, 2008). Integration also depends on the number of processes that can be shared, which refers to the services exchanged via a channel. Both the revenue structure and the pricing method of the shared services business model were found to be dependent on each other and on whether the shared services are transactional or non-transactional.

In one instance, two factors were found to be relevant for only one constituent element. This was the case for the customer orientation (external and/or internal) and the target segment (specific and/or generic) that were both associated with the target segment. All of these factors were relevant to the three case studies, though there were differences in the way these choices were filled in.

Important factors of the value proposition influencing the customization dimension are whether the services provided are new or already existing resulting in potential path dependencies, and whether there is a legal and/or regulatory driver for initiating the SSC, an important value element for public sector organizations. Also important is whether the services are oriented towards internal customers (employees) or internal customers (such as citizens and businesses) and whether there are generic or specific target segments. Relevant factors associated with the value architecture are the core and non-core distinction, the ICT or business focus of the services, and also the IT governance structure. Important factors for the value network are the change and relationship management strategy, the degree of outsourcing, and whether it involves similar or different organizations with similar or different processes in scope. The value finance emphasizes the difference between cost and non-cost drivers, and the nature of the services in terms of whether they are transactional and scale-based or non-transactional and knowledge-based influencing the cost model.

6. Cross case-study analysis

Based on the three case studies, it was identified which factors influence the degree of customization and in what way. At the low end of this dimension, the configuration of these factors allow the shared services to be more standardized and generic without the need or possibility to deviate from the standard service delivery, while at the high end, the factor configuration requires the services to be more customized to the customer. The way the 12 identified factors influence the customization dimension in the three case studies will be described in more detail below.

(1) *Path dependency.* The creation of new services in the centralized case study demanded less customization of the shared services, as these did not have to take into account any compatibility with historical data, processes and interfaces, while the application services provided in the federated and decentralized case studies were restricted by their path dependencies and required customization. In the decentralized case study, each municipality had their own way of working and in the federated case certain IT activities were not provided by the SSC and were retained by the municipalities because of the fact that the SSC could not deliver these according to the municipalities' specific requirements. One of the interviewees in the centralized case study stated however that "the trend towards open standards, open data and open source will make this increasingly less of an issue" and "old legacy systems will gradually be phased out", suggesting that this factor might become less important over time.

(2) *Legal/regulatory driver.* In the centralized case study, one of the rationales behind the SSC was the regulatory requirement to use the same standards across the public sector, resulting in more standardization and homogeneity, while in the federated and decentralized case studies some of the services had to take into account specific legal/regulatory requirements that were limiting the degree of standardization. Interviewees indicated that additional legal and regulatory requirements have generally resulted in more customization as soon as new or additional legal and/or regulatory requirements became known. However, one interviewee remarked that "consistency of the regulatory requirements can over time in some way also result in more standardization as it forces governmental organizations to have a similar way of working".

(3) *Customer orientation.* The federated and decentralized cases showed that customized services are more likely required for external customers (e.g. citizens and businesses) as opposed to internal employees because of the large variety of citizens and businesses and the continuously changing external environment that requires more regular changes in the service delivery. The SSC manager in the decentralized case indicated that "citizens are using Internet more and more for municipality services, e.g. informing about changing their home of residence, but there are increasingly more online services. This trend will continue and requires a flexible platform that can be adjusted to our needs and requirements, taking into account new government policy".

(4) *Target segment.* This involves whether the customers of the SSC are a generic or a specific target group. The more specific target groups there are, the more customization is required, as was the case with the decentralized case study where different municipalities had different requirements for their specific customer base. In the centralized case study, all customers were considered to

be a generic, similar group and there is a "take it or leave it" approach where there is no room for customized services. Still, there is a trend towards "customized standardization", as an SSC manager of the decentralized case study indicated and a comparison with cars was made: "if you have an Audi or a Volkswagen, they both have the same base" and "because of increased technology, municipalities start to look increasingly more similar in their coachwork". Over the years, the municipalities in the decentralized case have tried to standardize their processes and way of working in a gradual way without losing their identity or autonomy and as such a trend towards a more federated operating model was visible. The SSC manager also stated: "The autonomy of a municipality is not expressed in terms of Macs or PCs".

(5) *Strategic importance.* In all case studies, the non-core IT activities were generally as standardized as possible to create maximum efficiency benefits, while the core application services provided in the federated and decentralized cases had to be customizable. One of the SSC customers said: "Changes in law and governmental strategy will result in new responsibilities for municipalities and flexibility of the system is important." In both the federated and decentralized case study, a certain amount of the non-core IT commodities have been outsourced to a commercial external provider, e.g. the network and telecommunication services.

(6) *ICT/business orientation.* The services can be ICT-oriented or business-oriented. With modern information and communication technology, information can be transferred and received very quickly and from every single place and most processes can be standardized, as they require limited business specific knowledge. This was the case in the centralized SSC case study, while the application services provided in the federated and decentralized cases required business knowledge and onshore support. An SSC staff member in the centralized case study mentioned that "the advent of cloud computing could be changing the traditional distinction between the IT and business domain, and also between centralized and decentralized operations".

(7) *IT governance structure.* Centralized SSC operations produce substantial economies of scale, because the services are standardized, as is the first case study, where the main concern of the board is to acquire as many customers as possible to gain economies of scale. In the decentralized case study there was more flexibility in terms of customized services that can be delivered, as the municipalities have choice over the allocation of IT resources in the SSC to support business priorities with line managers, influencing to a large extent the need for the IT and services that the SSC develops and operates. The federated case study tries to find a balance between these structures, combining economies of scale and standardization on the one hand, and relative flexibility of the SSC with the needs of the business on the other hand. The SSC customer in the decentralized case study elaborated: "The SSC delivers the services that we have agreed on and, within the budgetary bandwidths that were set, they can take decisions to invest in processes, competencies and information systems without approval from us. This is beneficial for the decisiveness and effectiveness of the process. However, in case we want things differently, we get immediate priority as soon as we communicate this to them."

(8) *Change strategy*. Two opposing change strategies to implement SSCs are present in the literature, the big bang strategy and the incremental strategy (Wagenaar *et al.*, 2006). In both the federated and decentralized cases, an incremental change strategy approach was used, given that the municipalities all had individual decision power and customized services that would take years to standardize. The SSC manager in the decentralized case study remarked: "When there are differences in speed, scale and ambition level a flexible way of cooperation is required allowing each municipality to take the time they need to adjust to the new mode of operation" In the centralized case study, a big bang strategy was used and from the beginning, only standard IT services were offered.

(9) *Degree of outsourcing*. It was found to be relevant whether all services delivered by the SSC are by internal resources or whether certain parts have been outsourced to a third party, which is the case in all case studies. The service providers involved used standard service offerings and therefore there is less room for customization for those services that are outsourced. The SSC customer in the federated case study mentioned that "as a small municipality you don't have any power against a big commercial service provider."

(10) *Integration potential*. SSCs can be used to share services between departments within one or more organizations. In the latter case, more scale benefits can be realized when the organizations and processes are similar, but if there are quite some differences, as was the case in especially the decentralized case study, it requires more customization to take into account the different requirements and interfaces between organizations. The SSC manager of the decentralized case study remarked that "the fact that there was no integrated administrative system between the municipalities was a significant initial hurdle and it took time to set this up and to determine the exact point where we would uncouple the services from each of the municipalities. That's why it's so important to be patient during the first one to two years setting up an SSC between multiple parties. After the optimization and integration of servers and desktops, the good thing was that there became more capacity available for projects allowing us to increase the quality of the services and of our cooperation."

(11) *Economic rationale*. This relates to the question whether there is a cost focus or whether the SSC is to a large extent initiated to improve skills (Treacy and Wiersema, 1993). Only when services are relatively standardized, they can be delivered in an efficient way as was the case in the first case study. In the federated and decentralized case study, non-cost drivers also played an important role. The employee of the SSC in the federated case study emphasized that it is not about making more profit: "The advantage for us is that we can improve the quality of our IT organization by increasing the number of specialists, both in terms of quantity and quality. Moreover, we can make our systems more productive by making them available to other municipalities". Both SSC customers in the federated and decentralized case study mentioned that getting the lowest price was not a dominant criterion.

(12) *Business value*. Transactional services are high-volume tasks that are highly sensitive to scale, such as the services provided in the first case study. The objective is to achieve the lowest cost while maintaining high-quality standards. Non-transactional services such as application management in the federated

case study, require considerable contact with internal programs for specific business knowledge and these services therefore required a combination of broad expertise and customization. One of the interviewees in the centralized case study said: "Things that were non-transactional in the past, have now become automated and can be considered commodities, so this dimension is changing with the advance of information and communication technology. Still, certain activities you should not want to automate."

Figure 2 provides a summary of how the 12 factors influence the degree of customization in the three case studies.

7. Discussion

Shared services arrangements are diverse and differ on many aspects. Based on Al-Debei and Avison's (2010) unified business model framework and three case studies, 12 factors were identified that influence the customization dimension of shared services business models in these case studies. Many factors can be found in the literature including the path dependency and IT heritage (Earl *et al.*, 1996), the centralized/decentralized nature of governance (Earl *et al.*, 1996; Sambamurthy and Zmud, 1999; Grant *et al.*, 2007; Janssen and Joha, 2007), outsourcing and collaboration (Quinn and Hilmer, 1994; Joha and Janssen, 2010), strategic intents (Janssen and Joha, 2006; Joha and Janssen, 2009), the change strategy (Wagenaar *et al.*, 2006), the

Factor	Degree of Customization		
	Lower ⟵⟶ Higher		
1. Path dependency	Creating new services		Redesigning existing services
2. Legal/regulatory driver	No legal/regulatory requirements		Legal/regulatory requirements
3. Customer orientation	Employees (internal)		Citizens/businesses (external)
4. Target segment	Generic target group		Specific target group
5. Strategic importance	Non-core		Core
6. ICT/business orientation	ICT-oriented/remote		Business-oriented/localized
7. IT governance structure	Centralized	Federated	Decentralized
8. Change strategy	Big bang		Incremental
9. Degree of outsourcing	Partly outsourced		Fully insourced
10. Integration potential	Similar organization(s)/process(es)		Different organizations/processes
11. Economic rationale	Cost focus		Non-cost focus
12. Business value	Transactional/scale-based		Non-transactional/knowledge-based

Figure 2.
The way the factors influence the degree of customization of the shared services business model in the three case studies

integration potential (Joha and Janssen, 2008), standardization (McIvor *et al.*, 2011), the strategic importance of services and the business value (Quinn and Hilmer, 1994) and the specificity, criticality, unspecifiability, uncertainty and complexity of the services (de Looff, 1997). However, none of this literature was focussed on identifying these factors in a holistic way and in a shared services business model context, showing how they affect the standardization/customization dimension.

Comparing and mapping these factors affecting the customization dimension made it apparent that there is overlap between the four BM dimensions as proposed by Al-Debei and Avison. The "intended value element" in the value proposition can be regarded as a financial value element that can also be addressed in the finance value dimension, while the value network dimension mentions "governance" as a constituent element, but depending on its definition, governance could have equally been addressed in the value architecture dimension.

This research did not take into account which factor(s) are more influential than others, though the literature suggests that the (IT) governance structure is a dominant factor (Earl *et al.*, 1996; Sambamurthy and Zmud, 1999; Peterson, 2004; Weill and Ross, 2005). Understanding the relative importance of factors can help to identify the most dominant factors that should be addressed first when designing new business models and this could be an important area for further research.

Ulbrich and Borman (2012) address the issue of unbalanced process standardization in SSC development. A lack of or too much standardization can cause a shared service to transition into less effective functioning service delivery modes and Ulbrich and Borman (2012) identified four distinct development trajectories. Our research did not specifically focus on the evolution of the SSCs over time, but in the decentralized case study a trend towards a more federated model has been visible. This was not a conscious decision, but almost a natural evolution: the municipalities realised that they could integrate certain IT systems without giving up their identity or autonomy, which would result in more efficient and effective operations, more resources available to improve the quality of the service delivery and more opportunities to share services even beyond IT processes. Further research on the evolution of shared services and the factors associated with that evolution is required.

There are (inter)dependencies between these factors and the choice regarding the configuration of one factor could make the choice regarding the configuration of another factor more or less likely. For example, the economic rationale and the IT governance structure were found to be correlated. If there is a strong cost focus, it is more likely that a centralized IT governance structure is used, as this governance style is able to standardize processes. This dependency is confirmed in the literature (Hodgkinson, 1996; Sambamurthy and Zmud, 1999). Future research could focus on identifying which combinations of factors are conflicting with each other in such a way that it will result in a less effective service delivery mode.

Interviewees indicated that the advance of cloud computing could have an impact on the traditional distinction between IT and business services and between centralized and decentralized operations. The relative importance of certain factors can however change over time, and path dependency was given as an example as the usage of open standards, open data and open source will make it increasingly easy to integrate IT infrastructures and services with each other. Future research could focus on identifying which factors vary in importance over time and how this affects the configuration of SSCs.

This paper expands the body of knowledge of shared services by identifying the factors underlying its business model in three case studies and the way these factors influence the customization dimension which has been an important feature of SSCs. As such, it provides a first attempt to come to a conceptual shared services business model framework and practitioners can take this model and its factors into account when designing and developing SSC business models. Furthermore they should be aware that choices regarding the configuration of these factors can be conflicting, potentially making less or more standardization possible and in that way affecting the efficiency and effectiveness of the SSC operations. This again, will have an impact on the governance processes and mechanisms of the SSC that need to be put in place, as interviewees have indicated.

Given that Al-Debei and Avison's (2010) unified business model framework is relatively recent, there are hardly any critical responses to their framework as per yet. The framework is based on an aggregation of existing work in the field of business models and is as such very comprehensive. The standardization and customization characteristic is not explicitly mentioned in Al-Debei and Avison's (2010) framework, but for shared services this dimensions seem to pervade all of the BM dimensions. It determines how cost-efficient services can be delivered (Morris *et al.*, 2005; Lampel and Mintzberg, 1996), which often is an important driver and justification to implement shared services (Janssen and Joha, 2006).

A couple of limitations of Al-Debei and Avison's (2010) framework have been found when applying it to SSC business models in the public sector. The model applies a high level of abstraction to ensure its generic nature. Although the claim is that the four BM dimensions classes are mutually exclusive, the authors did not test this and our case studies show that there are dependencies between the BM dimensions. Furthermore we found that the constituent elements of the BM dimensions have not been accurately defined. One reason for the shortcoming of the unified BM framework is that it is a generic model that has not been specifically designed for shared services or the public sector. This suggests that there is a need to customize the BM framework for various types of business models. Future research might find additional amendments to the framework, also because there is still no full agreement on the definition of a "business model". This could potentially have an impact on the factors that were identified and the granularity of the factors.

A limitation of this research is that our investigation was restricted to three SSC case studies at the government level in a single country, with similarities regarding the delivered services. If case selection was based on different types of (business) services, different sectors and/or different countries, the outcome might have been different and we therefore recommend to empirically validate and generalize the factors in a broader setting.

8. Conclusions
In the literature, shared services are often viewed as one type of business model in which distributed services are concentrated and provided to more than one customer. Our case studies show that in practice there exists a variety of shared services business models and that there are multiple factors influencing the shaping of these business models. As such, shared services might well be viewed as an umbrella for capturing various types of business models. Using the unified business model framework by Al-Debei and Avison (2010), we have investigated three shared services case studies in the Dutch public sector having different governance structures. The BM dimensions provided insight into the

differences between the case studies and helped to identify the discriminating factors that are important in designing shared services business models in terms of the degree of customization that might be required. Using this framework, 12 different factors were identified in the three case studies that shape shared services business models in terms of the degree of customization. These include the:

(1) path dependency;
(2) legal/regulatory driver;
(3) customer orientation;
(4) target segment;
(5) strategic importance;
(6) ICT/business orientation;
(7) IT governance structure;
(8) change strategy;
(9) degree of outsourcing;
(10) integration potential;
(11) economic rationale; and
(12) business value.

These factors can be used by practitioners to better design the appropriate shared services business model, as all too often the decision to use shared services is based on the idea that there is a homogeneous business model. Yet different shared services business models might yield different benefits and as such it is important to design the shared services business model in such a way that it fits a specific situation. Moreover, it should also help to understand the implications of shared services as the choice regarding the configuration of each factor will have governance and management consequences that need to be addressed.

At a high level model, the unified business model framework was found to be appropriate for analyzing our case studies, but the framework has limitations in terms of its high-level of abstraction and its generic focus. This research draws on the unified business model framework and can be viewed as a further specification and extension of this framework in the field of shared services. Factors that are specific to shared services customization/standardization are detailed. Customization/standardization is not included in the unified model, whereas it is a key element in shared services business models. As such customization/standardization can be viewed as a useful extension, as the degree of customization plays an essential role in realizing economies of scale and delivering cost-efficient services, which play often also a role outside the shared services domain. The dimensions proposed for classifying business models show that the generic business model helped as a starting point, but does not show all specific underlying factors. In further research these factors can be validated and potentially extended and refined based on more empirical data. Hence, we follow Al-Debei and Avison (2010) and recommend to apply the generic business model to specific types of business models within different domains and sectors. Furthermore, it would be of interest to identify the relative importance of the identified factors and the interdependencies between them, including how shared service business models and its corresponding factors evolve over time.

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