Representing Service Business Models with the Service Business Model Canvas - The Case of a Mobile Payment Service in the Retail Industry

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Abstract

IT is a major driver of business model innovation and servitization. Representations of business models are widely used tools for analyzing instances of these developments as well as for the ideation of novel services and service business models. However, current representations of business models fail to capture essential aspects of service, such as co-creation. In response to these shortcomings, the paper presents a representation for service business models. The utility and efficacy of this alternative business model representation is demonstrated with a case study of a proximity m-payment service in the German retail industry. We apply and compare the Business Model Canvas as well as the Service Business Model Canvas. Based on this application, we present an evaluation by an informed argument of the representation.

1. Introduction

Increasing global competition, advances in technology, and the search for attractive market opportunities foster a process of servitization in many companies [1]. IT is a key driver of this process, enabling the generation of novel business models that leverage IT for co-creation of value [2]. As a consequence the analysis and generation of service business models and the role of IT in these business models has become the focus of interest in practice and research [2-4]. However, the exploitation of opportunities for innovating service business models faces a number of challenges. Service is characterized by its focus on value and value creation and requires a change from product to service, production to use, transaction to relationship and supply chain to value networks [5-7]. Especially, information and communications technology (ICT), with its multi-sided nature, fosters the integration of customers and providers as active partners in value creation [8].

Hence, with its opportunities to actively integrate participants in value creation processes, ICT is a key driver for the emergence of service business models.

In order to exploit the opportunities of service, new service-based business models have to be developed. Representations of business models offer a possibility to support the analysis and development of a specific logic for value creation and value capture [9]. Depending on the target of the development, different business model representations can be used. In general, research on business model representations can be divided into two research streams. The first stream offers a flow logic that considers value flows and activities. A prominent example for this is the e3-Value method [10]. The second stream offers a system-level holistic view on the business logic of an economic entity or offering [11]. A prominent example for this stream is the Business Model Ontology (BMO) [12] and the Business Model Canvas (BMC) [4]. In every stream, there is no dearth of methods for representing business models. However, there is a lack of cumulative research as most publications propose alternative representations rather than evolving existing models. As a consequence, this paper seeks to take a cumulative stance for the development of business model representations by proposing an addition to an existing method rather than a fully new, alternative representation. Calls for more cumulative research have been voiced in design science [13] as well as in business model research [11]. This cumulative approach requires choosing a single representation as a base. We decided to add to the business model canvas (BMC) for two reasons. It is to our knowledge the most widely cited representation in the academic literature as well as a broadly applied method in practice[1].

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[1] Academic reception: 869 citations on Google Scholar as of 2013-09-04 compared to 478 citations for e3-value. Proxy for adoption in practice: over 4m Google hits for "business model canvas" compared with less than 32,000 hits for "e3-value"

Previous research shows that the representation of service-specific aspects is missing in the business model canvas [9, 14]. In particular, the representation of customer integration and co-creation of value is missing [15, 16]. In order to overcome these issues, we propose an extension of the BMC that we call the Service Business Model Canvas (SBMC).

The research question of this paper is: "*Can the service business model canvas improve the representation of service business models?*" By answering this question, the paper also contributes to service research by proposing a demonstration of a service-specific business model approach [3]. Service business models have shifted into the focus of service research recently, not the least in response to the call for research on service infusion and growth [17]. A representation of service business models provides replicable methods for practitioners and researchers for representing the service business logic of individual cases. Moreover, representations contribute to the ongoing stream of research on methods to facilitate the design and engineering of service (e.g. [18]). By using data of a complex real life service case to both concepts, BMC and SBMC, this research demonstrates the improvement of the SBMC in comparison to the BMC. The case underlines our evaluation by informed argument as it provides the complexity of a real service business model that is currently implemented.

This paper is organized as follows. After a brief introduction of business models, the research methodology and the EDEKA case study are introduced. On this basis, the resulting business model of EDEKA's proximity m-payment service is introduced both as BMC and SBMC. Thereupon, the results get compared and the SBMC is evaluated by an informed argument to demonstrate its efficacy. Finally, this paper ends with a conclusion and an outlook.

2. Conceptual foundations

2.1. Business Models

In recent years, business models have became a popular topic in research and practice [11]. This popularity is based on their manifold applicability as a tool for the analysis and design of value creation and value capturing in companies [12, 19]. Nevertheless, this attention leads to a rising amount of publications in this field and a high diversity in the understanding of business models. As different literature reviews show, there is still no consensus in research about the definition of business models [9, 12, 20]. Selected conceptualizations of the business model concept can be found at e.g. [20-23]. In addition to the variety of conceptualizations and definitions, the diversity of the business model concept is also reflected by different ontologies. Three of the most common ontologies are the e3-value Ontology [10], the BMO [12] and the Resource-Event-Agent Ontology [24].

Considering existing business model research streams, the authors of this contribution follow a system-level holistic overview on the business logic that explains how to create and capture value [11]. A widespread and popular approach in this field is the BMO [12]. The BMO represents a formalization of the elements, relationships, vocabulary and semantics of a business model. Based on this ontology, Osterwalder and Pigneur [4] in conjunction with numerous practitioners developed the BMC. This approach represents a practice-oriented visualization of the key elements of a business model and their relationships.

2.2. Service Business Models

As already mentioned before, services become a crucial element for the business of many companies. Thus, a growing importance of service business models can be noted. In particular, service is defined by Vargo and Lusch [7] in service-dominant logic, as "[…] the application of specialized competences (operant resources—knowledge and skills), through deeds, processes, and performances for the benefit of another entity or the entity itself". Hence, a service is a process that is applied for the benefit of another party.

Existing business model approaches already help analyzing and developing service in a different context [9]. In particular, the business model lens helps to focus on value creation and value capturing and simultaneously not to loose a holistic picture.

However, the application of existing business model approaches, like the BMO, does not adequately consider all service-specific aspects [9]. One important reason is that, in contrast to a classic goods perspective, a service is process oriented and relational [5]. Additionally, co-creation, as one of the foundational premises of service-dominant logic [7], is missing in existing business model constructs [9, 16]. Because value is always generated in co-creation with the customer and has a unique and phenomenological character, this aspect has an important impact on service business models [7, 25].

Another aspect of a service is the resource integration of customers. Often, customers have to integrate resources into the value creation process to receive the desired value of a service. The integration of the customer can comprise e.g. skills, knowledge, physical resources as well as decisions [26, 27].

Existing service oriented approaches like the CSOFT ontology [28], the STOF model [29], and the

VISOR framework [30] consider network-based value creation. This network-centric view is an important contribution to the representation of service business models that we also seek to incorporate into the SBMC. However, these approaches do not propose a representation for customer integration and value co-creation. Moreover, these research contributions propose alternative representations of business models rather than extending existing ones.

However, first solutions for the representation of co-creation were already developed and analyzed [15]. Based on the solution of Zolnowski et al. [31], a further development was conducted. As depictured in Figure 1, the SBMC was separated into three different perspectives. These three perspectives are inspired by the swimlane representation of the Business Process Model and Notation (BPMN) [32]. Hereby, a detailed analysis of any actor of a service is possible and thus service specific aspects are considered.

The overall solution is based on the conceptual foundations of the BMO and an extended elaboration of the relationships of the elements. Based on these improvements, the solution focuses on the representation of co-creation in business models. To achieve this goal, the SBMC analyses the business model through the perspective of all actors. In addition to the network-logic that emphasizes a network of actors, the SBMC emphasizes customers in addition to a focal actor and network partners. Figure 1 illustrates the content of the SBMC.

The overall logic is the contribution to and benefit of the business model for each actor. The explicit addition of a customer perspective allows representing co-creation. In contrast to the value proposition of the BMC that illustrates the value proposed to customers of the business model, the value proposition in the SBMC allows representing the value proposed to each actor, including the focal actor. The customer relationship dimension of the BMC was renamed to relationship, because it covers the contribution to maintaining the relationship of all actors. Channels describe the interaction points between actors. The revenue stream dimension presents possible revenues for each actor. Key resources and key activities represent the contribution of each actor to service provision. In particular, these dimension illustrate the contributions of customers to the resources and the process of providing the service. Lastly, the cost structure shows which costs each actors bears as part of the business model.

Considering the literature, an applicable and useful business model approach for service environments must consider the following requirements [14]:

(1) A comprehensive representation of relationships between the customer and the entire business model.

(2) Representation of the customers' share of costs and revenues.

(3) Representation of the customers' contribution to activities and resources.

(4) Representation of the specific context of a customer. Hereby, the value creation of the customer is emphasized.

(5) Representation of the relationship and channel between a provider and customer showing how these actors co-determine the interaction between them.

Based on these requirements, a service business model emphasizes the possibility of the customer to co-determine or to interact with other elements of a business model. Hence, co-creation of a service must be displayed in a holistic way.

3. General research process

3.1. Methodology

According to the design science paradigm in information systems research, the novel artifact SBMC must demonstrate its utility, quality and efficacy [33, 34]. Therefore, the authors conduct the observational method of a case study to profoundly observe the artifact in a business environment [33]. As a particular

Customer (Customers in the business model)						
(Costs borne by customers)	*(Resources provided by customers)*	*(Activities carried out by customers)*	*(Value proposition for customers)*	*(Contribution of customers to maintain the relationship)*	*(Channels provided by customers)*	*(Revenues captured by customers)*
Cost Structure *(Costs borne by the focal company)*	**Key Resources** *(Resources provided by the focal company)*	**Key Activities** *(Activities carried out by the focal company)*	**Value Proposition** *(Value propositions of the focal company)*	**Relationship** *(Contribution of the focal company to maintain the relationship)*	**Channels** *(Channels provided by the focal company)*	**Revenue Streams** *(Revenues captured by the focal company)*
(Costs borne by partners)	*(Resources provided by partners)*	*(Activities carried out by partners)*	*(Value propositions for partners)*	*(Contribution of partners to maintain the relationship)*	*(Channels provided by partners)*	*(Revenues captured by partners)*
Key Partner (Partners in the business model)						

Figure 1. Service Business Model Canvas

qualitative empirical method a case study investigates "complex, difficulty delimitable phenomena in their natural context" [35]. Thus, the authors perform a case study by means of an app-based proximity m-payment service of the German grocery retailer EDEKA. The case is suited because of its intricacy of being a multi-sided platform, connecting several distinct user groups in a network and creating various values for them by their interaction [8, 36]. By applying the discerning case to both the BMC and SBMC concept, this research demonstrates the applicability of the SBMC in comparison to the BMC. Rather than focusing on the modeling process, this work shows its applicability and identifies limitations to conduct further research.

The research was executed as follows. Based on a literature review, actors in a m-payment service system and factors for their adoption and acceptance were identified. These factors are predictors for a potential usage [37] and provide requirements for a service in terms of a desired value configuration. Then both factors and actors have been integrated into the BMC based Mobile Payment Business Model Framework of Pousttchi et al [38]. It depicts feasible instantiations of each dimension and enables the analysis of a business model of a mobile payment service.

In a next step, one author was involved in the development process of the EDEKA service. By utilizing the afore-mentioned framework he iteratively analyzed the implicit business model by stepwise investigating each dimension per actor, starting with the focal company and moving on to the remaining perspectives. Here, the pillars for both BMC and SBMC were decorated. In cases where the framework lacked support for peculiarities, the instantiations of both models were extended. The results of each iteration were presented within four workshops where company experts with knowledge in m-payment, m-marketing, and innovation management participated. The experts then discussed the explicated business model dimensions for the BMC and the SBMC in order to check for integrity and to improve the depiction of the developed service business model. After completion two experts with experience in business modeling verified the application of both concepts according to requirements from the literature.

3.2. EDEKA case

The increased dissemination of mobile devices, their ubiquity and the convergence of functionality induce interest of merchants to employ them as access devices for retail services. In accordance with their positive emotional connotation they are suited to depict m-payments [39]. For the purpose of this paper, m-payment is defined as a type of handling payments, where in the context of an electronic procedure at least the payer uses mobile communication technologies for initiation, authorization, or realization of the payment [40]. Amongst others, this comprises scenarios in which all types of traditional commerce and service can be paid locally with help of a mobile device towards an agent of a merchant [41]. This is expected to overcome current challenges of the retailing industry, notably throughput time at the checkout, costs of cashless payment methods or relative anonymity of customers.

Notwithstanding its high attention, m-payment has not spread widely yet. According to a literature review, success criteria for their diffusion, disruptive potential, criteria for user and merchant adoption as well as enabling technologies have been examined [42]. Likewise an appropriate business model is seen as factor of success [43]. However, m-payment services often lack such a business model so that the service does not create expected value [44].

In order to co-create a m-payment standard and to be familiar with required processes when m-payment takes-off EDEKA initiated a strategic partnership with a mobile (payment) service provider. Being Germany's biggest grocery retailer, EDEKA generates revenue of EUR 44,6 bn. per year within more than 11.600 stores. Together they launched a proximity m-payment service in May 2013. Built into a mobile application for smartphones it allows payments at the checkout by simply showing a barcode, which is scanned by the checkout personnel or by self-service. Mobile coupons are automatically redeemed during transaction and the payment is settled with direct debiting scheme.

4. Description of the business models

In the following, the results of the research process are described. In both solutions, the m-payment service provider is the focal company providing the service to EDEKA. Consumers and self-employed merchants of EDEKA form the customer dimension.

4.1. Business Model Canvas of the EDEKA case

Figure 2 contains a BMC based illustration of the results. All acquired information are organized according the nine dimensions of this approach.

The *value proposition* defines the value of the service. Here, the service offers merchants a decrease of operational costs. For all customers, transactions are fast and safe. By additional m-marketing possibilities, merchants can make supplementary offerings and discounts. Lastly, customer data can be collected.

Potential *customer segments* are Business-to-Business (B2B), like merchants, and Business-to-Consumers (B2C). For both segments, the number of transaction is rather low and there is a low or no willingness to pay. The differentiation of the consumer market segment is high.

The merchant is in direct contact with the customer and maintains the *relationship*. As far as possible, there is no contact to the customer by the partners. The mobile service provider and all other partners are acting as white brand behind the EDEKA brand.

In the *channels* of the business model, the main element is the mobile application. All purchases are accomplished with the help of the application within the grocery stores. Furthermore, additional interaction is possible with the help of the Internet. Awareness is built based on advertisements and other promotions. Additional after sales services complete the interactions between the service and its customers.

To realize this business *resources* are required. Infrastructure elements, like applications, platforms and systems are necessary to enable the provision of the service. Mostly, partners must provide these resources. Intangible resources, like a customer and merchant basis form the foundation of the service. Furthermore, human resources are needed to enable many activities.

Needed *activities* comprise the confirmation of the payment at the checkout and the direct debit of the monetary amount. For this activity, a payment service provider is necessary. Furthermore, activities surrounding the application are needed.

Some resources and activities need to be provided by *partners*. Payment service providers provide billing and payment expertise. Furthermore, technology providers provide the hardware as infrastructure of the service.

The *cost structure* is mostly derived from needed activities and resources. Costs occur during the set-up of the infrastructure and the system. In addition to this, costs for the infrastructure, operation of the service and advertising and promotion occur.

The main revenue source is the merchant. Due to alternative, no-cost payment solutions, the customer has a low or no willingness to pay. Transaction-independent, for active users, and transaction-dependent, for discounts, usage fees are the basis of the generated *revenues*.

4.2. Service Business Model Canvas of the EDEKA case

Figure 3 represents the SMBC. All information are organized in nine dimensions and three perspectives.

Because of its interactive characteristic, the provision of a service needs the integration of customers and partners [14]. The business models' *customers* can be nuanced between differentiated Business-to-Consumer and undifferentiated Business-to-Business segments. All segments have a low number of transactions and a low or no willingness to pay. *Key partners* comprise payment service providers and technology providers.

The first perspective comprises the company itself. In the *value* dimension, the value for the focal company is described. It comprises a decrease of operational costs and increased platform sales. Important aspects for all consumers are fast and safe payments. Additionally, merchants have a decrease of operational costs, can collect customer data, and have an increased customer retention. B2C customers can receive savings by m-marketing programs of the merchants. Lastly, all partners can increase their sales by participating in the service. Payment service providers have a decrease of operational costs.

The mobile payment service provider is integrated into the process of service provision and thus only indirectly visible to the consumers. Customers have to

Key Partners	Key Activities	Value Proposition	Customer Relationship	Customer Segments	

-(PSP) Payment service provider
-(TP) Technology provider for checkout and terminals
	-App development, deployment, and maintenance/operation
	-(PSP) Transmission of payments for settlement
		-(MCH) Decrease of (operational) costs
		-(CST)(MCH) Payment safety
		-(CST)(MCH) Payment speed
		-(CST) Savings by m-marketing (offers and discounts)
		-(MCH) Customer data
			-Acquiring (Explicit merchant acquisition)
			-(MCH) Issuing by merchant
			-EDEKA brand
				-(MCH) B2B (merchants)
				
				-(CST) B2C (direct customers)
				    -Low number of transactions
				    -Low / no willingness to pay
				-Market segmentation (un-) differentiated
					CST = Customer, MCH = Merchant, PSP = Payment Service Provider, TP = Technology Provider

	Key Resources -(TP)(PSP) Tangible resources (payment infrastructure (mobile application, web platform, promotion system, etc.)) -Intangible resources (customer and merchant basis) -Human resources (sales force; product design; software development)		**Channels** -Mobile app -Web -Store -Advertising and promotion -After sales services (electronic manuals, customer service, …)		
Cost Structure -Set-up -Infrastructure -Operation -Advertising and promotion			**Revenue Stream** -Merchant as revenue source / no feed from direct customer -Revenue type - usage fees (transaction-independent (active users) / transaction-dependent (discounts))		

Figure 2. Business Model Canvas of the EDEKA case

register for all automated and self-services. Mainly, EDEKA is visible and maintains the *relationship.* Complementary automated services, self-services, and personal assistance are offered for customer relationship. Partners have a relationship by the automated service (payment service provider) and personal assistance (technology partner).

There are different *channels* for service provision. Customers must install the mobile app as a channel. Merchants integrate their website, a store and additional after-sales services. Partners provide sales force and their websites. Lastly, the focal company provides the mobile payment system with its mobile app, and additional after-sales services.

For the provision, some essential *resources* are required. Tangibles, like checkout systems and terminals, intangibles like merchant relations and staff are necessary for service provision. Beyond these, customers have to integrate their own resources. This means for the consumers to provide compatible mobile devices and to mandate debiting. The merchant has to integrate infrastructure, rights and staff. Partners need to integrate different tangible resources like payment infrastructure, and checkout systems.

The *activities* of the focal company comprise the development, deployment, maintenance and operation of the application. This includes also the transmission of payment information for settlement. Customers have to take over all needed activities, to get a running service provision. This includes e.g. registration and configuration. Merchants overtake all activities to arouse awareness and to mange the service provision in their stores. The payment service provider has to take over risk management and settlement activities.

The *costs* for the provision of this solution result from the setup and operation. Furthermore, infrastructure costs exist. Costs for the customers occur from their mobile device and debit card. Merchants have costs for infrastructure, setup and operation. Partners have also costs for setup and infrastructure.

The focal company generates its *revenues* by usage fees that arise transaction dependent or transaction independent. By the application of discounts, direct revenues for the customer are generated during a purchase. Furthermore, time savings are generated. By decreasing operational costs, merchants generate revenues per sale or purchase volume. Partners generate their revenues from the app and thus, transaction dependent.

5. Comparison and discussion

5.1. Comparison of the results

As shown previously, the final results of the service development process differ in various ways. The BMC

		Cost Structure	Key Resources	Key Activities	Value Proposition	Relationship	Channels	Revenue Streams
Customer perspective	CST	-Debit card -Compatible mobile device	-Compatible mobile device -Right of disposal for debit card	-Registration -Configuration -Authentication and initiation -Confirmation -Account management	-Payment safety -Payment speed -Savings by m-marketing	-Registration for automated or self service	-Smartphone with installed mobile app	-Savings (e.g. monetary and time)
	MCH	-Setup costs and operations (e.g. staff, discounts) -Infrastructure (checkout-system, terminals, connection)	-Tangibles (checkout system, terminal) -Intangibles (right of disposal for merchant account) -Staff	-Configuration -Awareness -Confirmation -Settlement	-Payment safety -Payment speed -Decrease of (operational) costs -Customer data -Customer retention	-Automated or self service -Personal assistance in store	-Web -After sales -Store	-Customer per sale or purchase volume
Company perspective		-Setup costs and operations (e.g. staff, negotiation) - Infrastructure	-Tangibles (payment infrastructure, promotion system, checkout system plugin) -Intangibles (customer and merchant basis) -Staff	-App development, deployment, and maintenance/ operation -Transmission of payments for settlement	-Increased platform sales -Decrease of operational costs	-Integrated into service provision	-Mobile payment system -Mobile app -After-sales (Customer service)	-Usage fees (transaction-independent (active users) / transaction-dependent (discounts))
Partner perspective	PSP	-Setup costs, operations, infrastructure	-Tangibles (payment infrastructure)	-Risk mgmt. -Settlement (direct debiting)	-Increase of sales -Decrease of costs	-Automated service (settlement)	-Web -Sales force	-Usage fees from merchant (transaction dependent)
	TP	-Setup costs, operations, infrastructure	-Tangibles (Checkout system, plugin, terminal)		-Increase of sales	-Personal assistance (distribution)	-Sales force	-From merchant per sale

Customer
-(CST) Differentiated Business-to-Consumer segments
-Low number of transactions / Low or no willingness to pay
-(MCH) Undifferentiated Business-to-Business segments
-Low number of transactions / Low or no willingness to pay

Key Partner
-(PSP) Payment provider (e.g. bank)
-(TP) Technology provider

CST = Customer, MCH = Merchant, PSP = Payment Service Provider, TP = Technology Provider

Figure 3. Service Business Model Canvas of the EDEKA case

considers mainly the service provider for the m-payment system for EDEKA. The SBMC solution has a wider perspective and considers all actors that are necessary for service provision. Hence, this approach differentiates between a customer perspective, a company perspective and a partner perspective.

As already stated, co-creation is one of the main characteristics of a service [5, 25, 45] and thus, must be represented in a business model. As shown in literature [14], neither the BMO nor the BMC illustrate the co-creation of a service. The main reasons for this issue are the value chain character and the limited relationships between the dimensions of the BMO.

To enable the representation of co-creation, the structure and relationships of the BMO were reworked. In particular, the relationships between the main dimensions and the actors were extended significantly. This is necessary to meet the requirements from literature [14] and thereby to illustrate co-creation.

In contrast to the BMO, where the integration of customer activities is not intended, in the SBMC the combination of extended relationships and different perspectives enable the possibility to represent the impact of different actors on the business model.

The BMC represents a differentiation between distinct value propositions of the customer segments. Therefore, this business model provides different value propositions for different segments. Furthermore, different channels and a specific customer relationship can be assigned to a customer segment.

In contrast to this, the SBMC is designed to represent the full bandwidth of interaction with the customer. The customer is positioned at the top of the business model and has a direct relationship to the main business model dimensions. Supported by the swimlane representation, it is possible to differentiate between the respective value propositions of the company for each actor. Similar to this, in the relationship and channels dimensions a differentiation between the customer's perspective and company perspective can be done. Hence, the SBMC enables its user to identify how the customer co-determines and influences these dimensions and how the company designs the relationship and channel. In the resource and activity dimensions the co-creation is represented. In the customer perspective, it can be exactly defined, which resources and activities a customer has to integrate to the service provision. Resources and activities of the focal company are represented in the company perspective. Lastly, the customer perspective for revenue streams and the cost structure is represented. Through the integration of activities and resources, costs occur at the customer's side, which are now described in the cost structure. Identical to this, revenues are also generated at the customer's side.

These are explicated in the customer's perspective of the revenue stream.

Besides the customer co-creation, also partners play an important role in service business models. The network character of a service is an essential part and comprises the change from a value chain logic to a value network logic [6]. Especially in ICT and its multi-sided nature [8], the integration of and interaction with additional partners is important. To capture this complexity, an integrated business model framework that helps professionals is necessary [46].

In the BMO, only partners integrate activities to the business model. Resources are integrated indirectly based on the included activities. Moreover, a differentiation between the activities and resources of different partners is made. According to the identified relationships [14], no further interaction occurs.

By integrating the additional partner perspective, the SBMC addresses these deficiencies and allows visualizing multi-sided networks. The impact of this extension is similar to the impact of the customer perspective. Thus, a specific value proposition for the partner, and the relationship and channels can be defined. Furthermore, the actual integration of resources and activities can be explicated. Lastly, detailed information about occurred costs and potential revenue streams can be determined.

Also, the application during the design process is of interest. In the BMC, different starting points for the development of a canvas are possible. Be it the value proposition or specific customer segments with its needs. In Addition, the SBMC allows starting the design of a business model from different perspectives and dimensions. Example 1 (in Figure 4) shows a design process based on the desired value proposition for the customer. Example 2 (in Figure 4) shows a service development process that starts in the resource dimension of the partners.
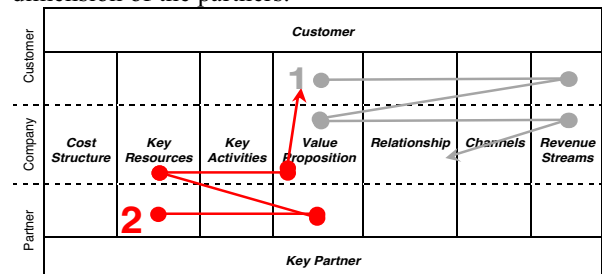
Figure 4. Starting points for the design

5.2. Discussion of the requirements

The application of the SBMC in this case study demonstrates its applicability and efficacy. During its use, a service development team was accompanied. The resulting service was released in May 2013. Next,

the SBMC is considered according to the proposed requirements of Zolnowski and Böhmann [14].

The *first requirement* postulates a comprehensive representation of relationships between the customer and the entire business model. This requirement is fulfilled by the SBMC. By integrating the customer perspective, all potential interaction points with the customer are visualized. Thus, it is possible to represent the impact of the customer on other business model dimensions. For example, Figure 5 shows, the interaction points between the customer and the business model dimensions cost structure, key resources and key activities. Examples for the interaction comprise the integration of resources and activities of the customer or the selection of channels.
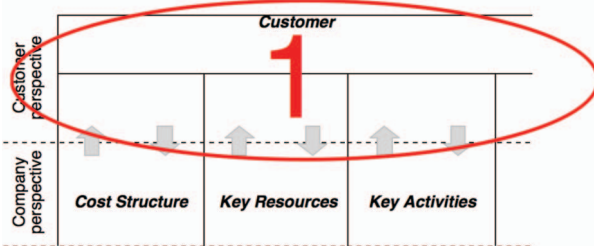

Figure 5. Illustration of relationships

To situate the influence of the respective requirement, Figure 6 shows the position of its impact. Thereby, the intelligibility of the following explanation can be improved.
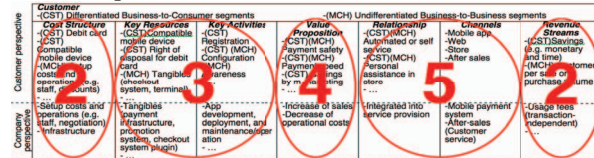

Figure 6. Requirements 2 to 5

The *second requirement* demands the possibility to represent the share of costs and revenues. As shown in the case study (number 2 in Figure 6), consumers and merchants have a specific influence on the monetary dimensions of the focal company. In the costs dimension, consumers can influence the company's costs e.g. by their choice of a mobile device and hereby, the wish for more compatible software. In this situation, the company has more effort in the development of the software and thus, more costs. On the other side, merchants chose between transaction-dependent or transaction-independent usage fees.

The *third requirement* demands the representation of the customer's contribution to activities and resources. This requirement is also depicted in the SBMC of the case study (number 3 in Figure 6). With his compatible mobile device, the consumer has to integrate own resources into the service provision. Without the mobile device, no service delivery is possible. In the activity dimension, the merchant has to

take over activities in his grocery store, e.g. assisting the consumer in the payment process.

In the *fourth requirement*, the integration of the customer's specific context and thus, situation, needs, and wishes is requested (number 4 in Figure 6). Nevertheless, because of the high diversity of value the task to visualize the contextual value of a service is a complex venture. Thus, it is rather not possible to display the contextual value in a comprehensive way. Nevertheless, the SBMC extends the value proposition by the possibility to visualize the customer's value explicitly. Hence, the desired value of the customer, as service-specific characteristic, can be illustrated.

One further point is the emphasis of value for any actor of the service. Because service is a perspective on value creation [7], value has a particularly important position in a service business model. By differentiating between the actors and their distinct value propositions, the value for any actor is emphasized. This is important because in many cases, the benefit is not only limited to monetary aspects. Rather, a long partnership with medium-term and long-term objectives is of importance. The benefit of a value is also important in negotiation processes, when the service provider has to discuss their integration and potential reciprocal benefits with possible partners.

Lastly, the *fifth requirement* requests to represent the customer's contribution to the relationship and channel (number 5 in Figure 6). The focal company is integrated into the service provision and just indirectly visible to the consumer. The merchant has to add services in the store and the customer has to register for himself the service. In the channel dimension, the customer has to install the smartphone app and the merchant has to provide his own channels.

In addition to the published requirements in [14], also the integration of partners is of importance. Especially, the multi-sided nature of ICT emphasizes the importance of partners. Furthermore, service ecosystems and thus, the network character of service [6] play an important role in service research. Similar to the customer integration, the SBMC also illustrates the influence of partners on the entire business model.

6. Conclusion and outlook

In this contribution, the authors demonstrate the applicability and the efficacy of the Service Business Model Canvas (SBMC), a novel business model approach for service environments. For this, a case study with EDEKA, Germanys biggest grocery retailer, was conducted and the development of a service for a proximity m-payment service accompanied. This service was launched officially in May 2013 in major

German cities. By applying this case to both concepts, Business Model Canvas (BMC) and SBMC, this research analyzes and compares the representation of the SBMC and the BMC. Lastly, the case underlines our evaluation by informed argument as it provides the complexity of a real service business model.

This research demonstrates the applicability of the SBMC. In contrast to the BMC, the SBMC offers an extended perspective on service business models. This enables the user to take a holistic perspective on the business logic. Especially when considering service-specific aspects, the SBMC can improve quality of the illustration of the business model.

Nonetheless, related to service-specific aspects, this approach also cannot represent all aspects completely. However, this problem is based on the heterogeneity of service. To visualize contextual value and value over time, a holistic business model approach is too static. In order to overcome this issue, a variety of customer segments or different, time dependent versions of a business model are necessary.

Furthermore, when representing network based service business models, the complexity of the SBMC rises significantly. Especially relationships between individual customers and partners cannot be represented easily. Future research can focus on this issue and develop a network-oriented perspective on business models. However, the SBMC was developed to keep the existing advantages of the BMC and to enable the representation of service. The main advantages comprise an easy, intuitive, and compact representation of service business models.

By taking a cumulative stance for the development of a service business model approach, a new comprehensive approach is developed. This solution can help professionals to analyze, illustrate and design service business models with respect to their service-specific characteristics. Additionally, by widening the perspective and defining the impact of customers and partners on their own business model, professionals get a holistic overview of the business logic of a service.

Based on this overview, professionals can identify the interaction points with customers and partners. Professionals are able to illustrate how the focal company can contribute to the customer's business model or how it can collaborate with the customer. Furthermore, developers get hints on how to interact with the customer and which partners must be integrated into the service provision.

This paper contributes to service research by adding replicable methods for the representation of service business models [17]. It offers a tool that helps scholars to analyze, illustrate, and design service business models. Particularly important, this concept can add to the research on the nature of service value and the role of co-creation in service businesses. Additionally, this work contributes to business model research, by the provision of a service-specific business model approach and a service case.

As part of a research project on the analysis and design of service business models, this contribution is one more step to explore service and its business models. So far, the authors have demonstrated the applicability of a service-specific approach. According to the Design Science Research Process model, in the next step, an evaluation of this concept is necessary.

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8. References

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