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## Metamodels for Representing Service Business Models

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## Metamodels for Representing Service Business Models

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### Abstract

Service is a key business for a growing amount of companies. Especially in highly competitive markets, companies can secure their revenue generation and turnover through services. The ongoing change in present companies is associated with the change of existing and emergence of new business models. Especially the co-creation, as a key characteristic of services, and its impact on the business logic should be represented in the business model in a comprehensive way. This paper contributes to this field of research by assessing proposed business model extensions for services to evaluate the state of the art in representing service business models. For this reason the state of the art was considered and examined by defining comparison criteria and analyzing different approaches.

**Keywords:** business model, service, co-creation, service dominant-logic, canvas.

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## INTRODUCTION

Service is a key business for a growing amount of companies. Until the year 2008 the gross domestic product (GDP) of services in Germany grew up to 69% (Federal Statistical Office 2011). Especially in highly competitive markets, companies can secure their revenue generation and turnover through services (Stolz 2006). The ongoing change in present companies is associated with the change of existing and emergence of new business models and thus further development of the business model concepts.

The attention of practice as well as research on the business model concept increased significantly with the appearance of the Internet in the mid - 1990s (Afuah and Tucci 2001; Ethiraj 2000; Zimmermann and Alt 2001; Zott et al. 2010). This popularity is based on the rising competition on similar products and services and thus the demand on differentiation through divergent business models (Giesen et al. 2007). Supported by the ongoing process of change in many companies, the business model concept has got more and more popular (Osterwalder et al. 2005; Zott et al. 2010). Nevertheless, despite of the application of the business model concept in the service environment, current approaches lack service specific aspects (Zolnowski and Böhmman 2011). One example of these deficits is the representation of co-creation of service providers and customers (Vargo and Lusch 2004).

To close this gap, we discuss service-focused extensions to the state-of-the-art of business model representations (Fiel 2010a; Zolnowski et al. 2011b). This paper contributes to this field of research by conducting a first formative evaluation of proposed business model extensions for services, thus answering the research questions: *“What are the characteristics of metamodels for the representation of service business models? How do existing metamodels for representing service business models fit to these characteristics?”* Therewith, the contribution gives an assessment of present approaches and leads the upcoming research by identifying new aspects for a successful implementation of co-creation into the business model concept.

The following paper starts with a brief introduction of the conceptual foundations. This is followed by a description of the methodology and especially the used comparison criteria. By application of these criteria, different approaches are examined and evaluated. The paper ends with a summary and implications for further research.

## CONCEPTUAL FOUNDATIONS

### Business Models

The academic literature offers a variety of possible conceptualizations of the business model construct (e.g. Afuah and Tucci 2001; Zott and Amit 2007; Ethiraj et al. 2000; Slywotzky and Morrison 1998; Timmers 1998; Wirtz 2001). Recently, however, the different approaches seem to converge. Al-Debei (2010) summarizes a business model as “[...] an abstract representation of an organization, be it conceptual, textual, and/or graphical, of all core interrelated architectural, co-operational, and financial arrangements designed and developed by an organization, as well as all core products and/or services the organization offers based on these arrangements that are needed to achieve its strategic goals and objectives.”. Similarly Osterwalder (2004) defines a business model as a “[...] conceptual tool that contains a set of elements and their relationships and allows expressing a company's logic of earning money. It is a description of the value a company offers to one or several segments of customers and the architecture of the firm and its network of partners for creating, marketing and delivering this value and relationship capital, in order to generate profitable and sustainable revenue streams.”

(Osterwalder 2004). Osterwalder also developed the business model canvas, which represents a visualization of the business model dimensions (Osterwalder and Pigneur 2010).

Beside the increasing convergence of the definitions, an overall agreement about the applicability of the business model concept seems to emerge. The concept offers a system-level holistic view on the business logic and the activities needed for a successful execution, especially focusing and explaining value creation and value capturing (Zott et al. 2010).

## Co-Creation

During the last decades the perspective of value creation turned from a value-in-exchange view where value for customers is embedded in products to a value-in-use view where value for customers is generated during the value-generating processes (Grönroos 2008). This reflects the shift from a traditional goods-dominant logic with the focus on the exchange of goods to a service-dominant logic focusing on the creation of value (Vargo and Lusch 2006).

According to this, value is not created by buying products but by using them in a specific context (Gustafsson et al. 2011). This reflects renunciation from distinct roles of customers and producers towards a broad engagement of the customer in value creation (Prahalad and Ramaswamy 2004).

This new perspective emphasizes on the understanding of the customer as part of value-creation (Edvardsson et al 2010; Spohrer et al. 2008). From this point of view the customers can tailor the product or service pursuant to their needs, which results in an enhanced value created (Kristensson et al. 2008). This also implies that customers can be part of the value creation along the complete value creating activities, for example from the development to the delivery of a product or service by providing customer-specific knowledge (Gustafsson et al. 2011).

## METHODOLOGY

To draw a conclusion about the suitability of business models to the service dominant mindset it is necessary to derive requirements for business models from the literature. These requirements can be derived on the one hand from generic attributes, which business models should have and on the other hand, from attributes that are derived from the service dominant-logic, especially according to co-creation (Vargo and Lusch 2004).

First of all general attributes are derived to ensure that the analyzed business models can be used in practice (Osterwalder et al. 2005; Lusch et al. 2006). A business model construct should therefore give the opportunity to represent various kinds of business logics. This aspect can be described as **universal applicability**. Furthermore, the **complexity** of a business model should be as low as possible to be intuitively comprehensible as well as easy-to-use. Typical aspects of the complexity are unique terms used for business model elements to avoid redundancies. Likewise the understandability of a business model decreases with an increased complexity.

Besides generic attributes of business models, specific attributes in the field of service business models can be derived by Vargo' and Lusch's comparison of goods dominant- (GDL) and service dominant-logic (SDL) (Vargo and Lusch 2004). Based on this comparison it is possible to derive three aspects that directly influence the way co-creation could be represented in business models. Firstly, according to the customer orientation it is necessary to represent the **value creation** in a business model (Vargo and Lusch 2004). Secondly, in the GDL the value for the customer is created with the exchange. Contrary to this, in the SDL value is created through

the use of a service (Vargo and Lusch 2004). Therefore, the second aspect is the possibility to include **value-in-use** in a business model. The third and last considered specific attribute, a service business model, should address is the **co-creation** which means that there is a direct influence of the customer on the design, realization and distribution of services (Vargo and Lusch 2004).

**Table 1** gives an overview on all relevant attributes.

Attribute	
Generic	Universal applicability
	Complexity
Service specific	Focus on Value Proposition
	Value-in-Use
	Co-creation

**Table 1.** Attributes of a business model

This research contribution is based on the conducted literature review of Zolnowski and Böhmman (2011). It considers the scientific literature focusing service aspects in recent business model approaches and identifies, inter alia, the missing integration of the customer into service design and delivery, also known as co-creation. Because of the missing consideration of co-creation in present scientific business model approaches, this contribution extends the evaluation by the analysis of practical approaches from other sources, for example topic related blogs.

To identify business model approaches that deal with the representation of services we decided as a first step to use Osterwalder and Pigneur's business model canvas as the base scenario. Secondly, we identified proposals for adaptations of business models using "business model canvas adaption" as search phrase. This search was conducted with a focus on topic related internet sources. As a result, two strands of proposals were identified who adapt Osterwalder and Pigneur's business model canvas. On the one hand, Fitzpatrick and based on his adaption Maurya were identified (Fitzpatrick 2010; Maurya 2010). Despite the visual analogy between the models, Fitzpatrick's as well as Maurya's adaption have a different purpose and focus on products (Fitzpatrick 2010; Maurya 2010). Therefore these approaches were not analyzed in this paper.

On the other hand, FielT derives adaptations of the business model canvas with the aim of representing service business models and especially the aspect co-creation (FielT 2010a; FielT 2010b; FielT 2010c). Therefore, these adaptations are analyzed in the following sections.

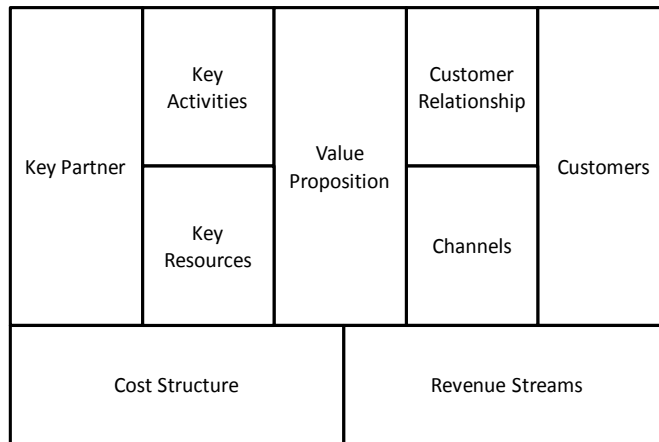
## SERVICE BUSINESS MODELS

After introducing the comparison criteria, the assessment of the different approaches will be described. The comparison was conducted in a workshop of four people, who tried to illustrate knowledge intensive, person oriented services with help of the identified approach. The objective of this comparison was to give an insight into present adaptations of the business model canvas and therewith, show possible directions for a successful implementation of co-creation aspects. Table 2 shows the summarized results, beginning with the origin business model canvas, followed by further adaptations in alphabetical order.

	Criteria				
	Generic		Service-specific		
Business Model	(1) Applicability	(2) Complexity	(3) Focus on Value Proposition	(4) Co-creation	(5) Value-in-Use
<b>Osterwalder and Pigneur (2010)</b>	Universal	Low	Yes	No	Static value proposition
<b>Fielt (2011a)</b>	Co-Creation	Medium	No	Partially	Partially
<b>Fielt (2011b)</b>	Co-Creation	Medium	Yes	Partially	Static value proposition
<b>Fielt (2011c)</b>	Co-Creation	High	Yes	Partially	Partially
<b>Zolnowski et al. (2011)</b>	Service	Low	Yes	Yes	Implicit

**Table 2.** Comparison of different business model approaches

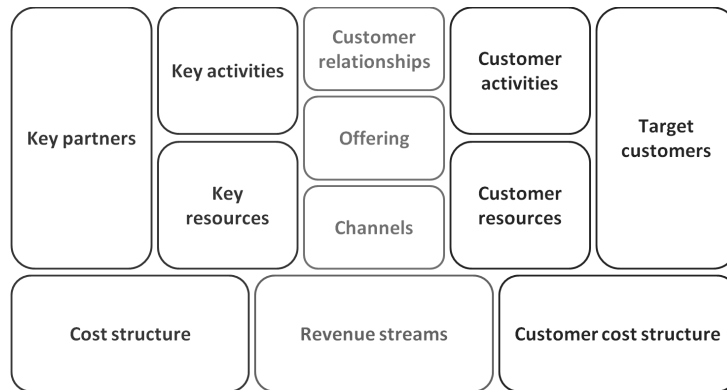
First, the original business model canvas of Osterwalder and Pigneur (2010) was assessed. It is based on the results of the doctoral thesis of Osterwalder (2004) and was developed for use in practice. By using a value chain logic, the canvas can be separated into the left side, which focuses the value creation and the right side, that deals with the service delivery. At the bottom, the monetary dimensions can be found. (1) Osterwalder and Pigneur offer a universal business model approach, which covers all types of products and services. Nevertheless, as already showed by Zolnowski and Böhmman (2011) the proposed approach does not cover all service specific aspects that are needed to represent a comprehensive overview of the business logic of a firm. (2) Despite its universal design, the business model canvas offers a structured and easy to use way to represent the core elements of a business model. All dimensions are unique and sorted in a structure similar to the value chain. This similarity leads to a fast understanding of the used dimensions and its organization, thus it has a low complexity. (3) The value proposition is an essential part of the business model and is located in the middle of the canvas. It contains core propositions and the provided value for the customer. The surrounding dimensions are targeting on the realization and delivery of the offered value proposition, thus a focus on the value proposition can be identified. (4) Bilateral interactions between the provider and customer are neglected. The flow of the business logic is defined unidirectional from the value proposition to the customer. An interaction is only envisaged at the partner side, where partners can provide activities and resources. Thus, the business model canvas covers no co-creation aspects. (5) Furthermore, by the static value proposition and thus the missing interaction of the customer with the value proposition, no value-in-use can be represented. Figure 1 shows the business model canvas of Osterwalder and Pigneur (2010).



**Figure 1.** Business model canvas (based on Osterwalder and Pigneur 2010)

The next approach offers an extension of the business model canvas. Fiel (2010a) replaces the value proposition through an offering and integrates customer activities, customer resources and incurred costs of the customer. Therewith, he tries to integrate possible influences of the customer on the offer of a firm. (1) As Fiel (2010a) mentioned that this first approach covers directly the field of co-creation and thus the same research gap as mentioned by Zolnowski and Böhm (2011). (2) The complexity of his model is slightly higher than in the business model canvas. It adds the dimensions customer activities, customer resources and customers cost structure. However, by adding elements and by having two cost-related elements, the model becomes more complex. Furthermore, he replaces the value proposition through offering. The left side of this approach does not change, but the right side changes significantly. On the right side there are now the customers with their resources, activities and costs. The middle part encompasses the offering and the connection to the customer. Overall, Fiel extends the used dimensions and removes the value chain structure of the business model canvas, therewith the complexity increases. (3) The change from value proposition to offering leads to a different understanding of this dimension, which loses the focus on the customer value and just considers the product and his features. (4) The additional dimensions customer activities and resources enrich the model by an interface between the customer and the offering. Thus, it offers the opportunity to represent the influence of the customer in a more comprehensive way. Nevertheless, the adaptation does not reach far enough, so that the complete potential influence of the customer cannot be represented. As co-creation says, the customer can have an influence on the whole service lifecycle. (5) Through the connection between the offering and its customers, value-in-use can be represented during the integration of customer's activities and resources. Nevertheless, because of the missing link between the customer and the other dimensions, the comprehensive influence of the customer on the business logic cannot be represented. Figure 2 shows the first adaption of Fiel.

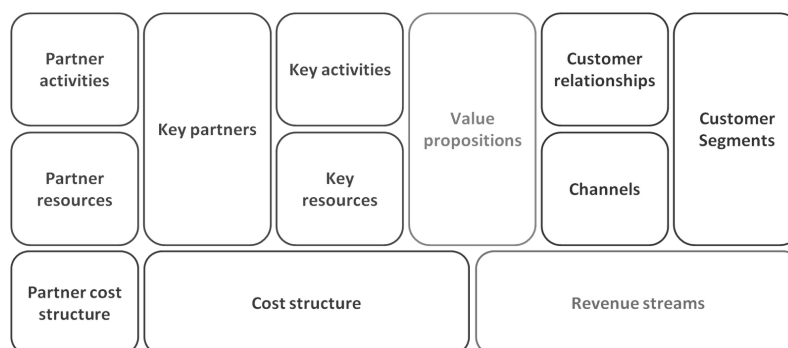




**Figure 2.** Adapted business model canvas (Fielt 2010a)

The second approach of Fielt (2010b) enhances the business model canvas on the left side by a more comprehensive focus on key partners, by adding their resources, activities and cost structure. Herewith, Fielt reaches a better integration of possible partners into the service creation. As Fielt (2010b) mentioned, (1) the objective of this model is to represent co-creation on the partner side of the business model. (2) This new approach enhances the consideration of the business model from one firm to two or more firms. By considering more than one firm, the complexity of the business model can grow significantly. Further, this approach loses the focus on the business logic of one value proposition by adding the view on other businesses. (3) Because of the high similarity to Osterwalder and Pigneur's canvas the value proposition as a main aspect of the model is preserved. (4) In this model a co-creation in general cannot be explicitly presented, but in case of partners it is implicitly possible. As well as the business model canvas, this approach does not look at the interaction between the business logic and customer. (5) Similar to the approach of Osterwalder and Pigneur (2010) the concept of value-in-use cannot be represented. A representation of Fielt's adaption is given in

Figure 3.



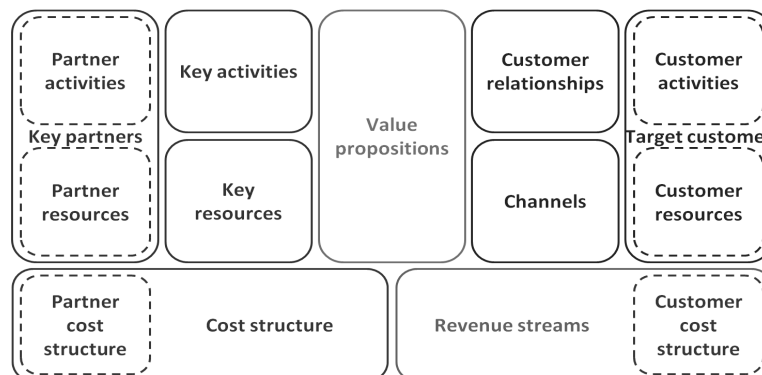
**Figure 3.** Partner-co-creation business model (Fielt 2010b)

The third adaption of Fielt (2010c) is called extended business model canvas for co-creation and partnering. It extends the business model canvas by adding partner as well as customers activities, resources and costs. This should help to indicate the influence of partners and customers on the business model. The remaining structure is the same as in the business model



canvas. (1) The name indicates the objective of the adaption that aims on co-creation driven service business models. To reach this aim, Fielt adds activities, resources and cost structure to partners as well as customers. (2) Therefore, the complexity of this approach increases and the traceability decreases. As already mentioned at the last approach, the goal on the business logic is extended, by a more detailed consideration of partners and customers. These all lead to a high complexity of this approach. (3) Analogous to Osterwalder and Pigneur's business model canvas, the value proposition is the central element of the canvas, which underlines the high importance. (4) According to the co-creation, the adaption allows to integrate customer activities and resources as well as partner activities and resources. Nevertheless, the integration is implicit and therefore the importance of this aspect for services is underrepresented. Especially the influence of the new dimensions on the existing business logic is not considered. (5) Finally, the concept of value-in-use is more pronounced than in the original business model canvas, because customer activities and resources can be addressed. However, due to the lack of a direct relation between the value proposition and these customer elements value-in-use can only be implicitly represented. A representation of Fielt's third adaption can be found in

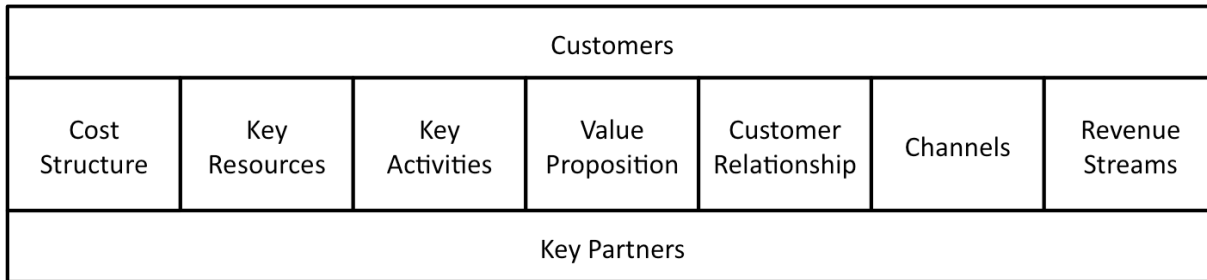
Figure 4.



**Figure 4.** Extended business model canvas for co-creation and partnering (Fielt 2010c)

The last approach proposes a restructuration of the business model canvas. By the positioning of the customer onto the top of the business model, the importance of the customer is underlined. Furthermore, the direct border to the main dimensions of the service providers' business model indicates the influence of the customer on them. Analogous to this, partners can also have a direct influence on the business model. In between these two stakeholders the actual business model is described. To sum it up, this way of representing the business model of a service provider ensures the consideration of customers as well as partners as key influences of a business model. (1) As mentioned by Zolnowski et al. (2011) the adapted business model canvas addresses directly the service environment. (2) By adapting the existing dimensions, the degree of complexity does not increase. The change comprises the relation between the dimensions and the actors of the business logic. Further, the adapted canvas does not have a value chain structure any more. Instead of this, cost-driving dimensions are on the left and revenue-generating dimensions are on the right. In contrast to the last approaches, additional actors are not considered. Only the influence of the other actors on the business logic is important. (3) Similar as in the business model canvas, the value proposition is an essential part of the business model. It covers the service as well as the value for the customer. All dimensions are working to enable

the value proposition for the customer. (4) The co-creation of value can be visualized in every dimension. This is possible by the direct connection of the customer and partner to any other dimension and thus by illustrating the influence of the customer on the business logic. (5) Through the direct relation between the customer and the value proposition it is possible to represent the value-in-use implicitly. The adapted business model canvas by Zolnowski et al. (2011) is shown in figure 5.



**Figure 5.** Adapted business model canvas by Zolnowski et al. (2011)

## CONCLUSION AND OUTLOOK

This paper offers an assessment of present business model canvas extensions for services. By defining comparison criteria and analyzing different approaches in this field of research, the state of the art was considered and examined. As the results show, the considered approaches cannot fully meet all criteria, and thus no complete useful business model approach for services exists. Nevertheless, first approaches can be identified, which try to close the existing gap and therefore adapt business model approaches for services.

With their business model canvas, Osterwalder and Pigneur (2010) provide a simplified visualization of their business model approach, which has a broad applicability. Nevertheless, problems occur when analyzing and representing business models in a service environment (Zolnowski et al. 2011). The reason for this problem can be found in the lack of service-specific aspects in this as well as in other approaches (Zolnowski and Böhmman 2011).

As a result of the analysis of the five different business model approaches it can be stated that only Osterwalder and Pigneur's business model canvas is a universal approach whereas all other approaches focus on services or single aspects of services. Furthermore, it can be seen that the complexity of the approaches increases rapidly while adding and modifying elements. In the area of service-specific criteria every approach, except Fiel (2010a), focuses on the value proposition as a main aspect of every business model. The concept of co-creation can at least partially be seen in all the adaptations of the business model canvas. This reflects the relevance of this concept for the representation of service business models. Finally, the representation of value-in-use as a main difference between GDL and SDL is not extensively supported in the different approaches.

Yet, all proposed extensions still do not provide satisfactory solutions for representing the key aspects of service business models. The essence of such models in the context of SDL is to help managers to understand current business focusing on co-creation and value-in-use as well as to generate future service business models based on this premise. Representing what customers and service providers contribute to and gain from a business model either increases the complexity of the model or can only be expressed with limitations. This gap increases if one

assumes that value is created in a network of different actors as opposed to the dyad of service provider and customer.

Based on this assessment, it is necessary to evolve the representation of service business models. Future work should thus focus on developing a simple representation of the participation and integration of multiple actors in a business model. Moreover, the representation should express how these contributions are integrated for realizing the value propositions of a business model. However, it should not be forgotten that a business model illustrates a holistic view on the business logic and therefore, it does not need to extend a detailed focus on other actors. The main focus in further research on business models should consider the impact of the actors on the business model.

Such improved representations of service business models are warranted to provide better support to many firms and individual managers who seek to increase their service revenues. Significant growth with services often challenges the incumbent business models of firms and pushes managers into assessing and generating novel business models. Tools supporting this demanding assignment are thus critically needed.

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