User-centric, Value-oriented Business Models? An Analysis of how Value is Seen in Different Business Model Research Streams

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Abstract. *A business model is an integral part of creating, adapting, and maintaining a product or service to market maturity; without the business model, there is no market-ready product or service, just an idea. In the past years, business model research has flourished and touched numerous research areas and authors in their work. There is a plethora of definitions, descriptions, and combinations of elements that aim to clarify what a business model is and does. Out of these numerous elements, one aspect strikes us as quintessential for successfully creating a product or service: The aspect of value. In this paper, we intend to provide an analysis of existing business model approaches with a focus on how the aspect of value is incorporated in these concepts. Rooting in the believe that the value that the customer receives or perceives should be the center in business model formulation, we take this as a first step towards user-centered, value-oriented business model design.*

Keywords. business models, value, added value, value-in-use, state of the art

1 Introduction

The close connection of business models and value stems mainly from the need to create novel approaches to creating and capturing value in the internet and e-commerce era. However, we found that the definition and localization of value in the respective authors' business model construct differ greatly. Value is at times presented as a proposition of attributes inherent to a product or service, at other times a process of creation and capture; but most literature lacks a thorough definition and instruction on how to apply the value aspect to business model engineering – apart from the lack of a clear business model definition itself.

In our approach to create an analysis of business model literature with a focus on value aspects, we analyze existing work and create an overview of the current landscape. The question we ask ourselves is, how do business models and value blend together in literature at the time being. In yet a further step that we intend to take in the future, we ask ourselves how business models and different aspects of value (value-in-use, added value, customer perceived value) blend together to create a holistic business model evaluation approach that centers around the value that the customer disposes of in the end.

The paper is structured as follows: First, we introduce the business model definitions and value concepts as the standing ground of our work and future activities. Then, we present a categorization of streams and value localizations that shows an overview of how value is perceived to be relevant in the business model. Finally, we discuss the findings and present our future approach to creating a business modeling tool with the help of selected theories and an evaluation model in an iterative process.

To gather the information on existing business model literature and value localizations, we searched numerous data bases and referred to existing state of the art work in this field. This also supported us in sharpening our categorizations of business model research streams.

2 Research approach

In defining what the term “business model” stands for, we had a wide offer of definitions to choose from and decided to build upon the definition of Teece [31] who suggests that “a business model [is] a conceptual, rather than financial, model of a business”. A business model in his argumentation describes the architecture of a business, its main actors and processes. It does not focus on revenue streams but illustrates the organization a holistic picture although there is of course a financial model with costs and benefits included (see also: [4]).

Another interesting definition that exhibits the connection between the business model and the value term is provided by Amit and Zott [1] who view the business model as an artifact that "tries to explain and predict an empirical phenomenon, i.e., value creation and value appropriation".

We see value as the benefits of a product or service minus the sacrifice required to use the product. We follow the categorization of Heinonen [14], who sees four dimensions of value, namely technical, functional, spatial, and temporal value. Additionally, we believe that value must be divided on another level into pragmatic value and emotional value.

Value is a central construct in business models, however, the definitions and placements vary greatly. The majority of authors (undoubtedly based on the reciprocal references in the field of business model research) localize value at the intersection between the firm and the customer as a form of value offering or value proposition to the customer. Additionally, some authors describe a value stream that stands before the actual value proposition to the customer and is based largely on the concept of the Porter's value chain [25].

The concept of perceived value is only very rarely explicitly mentioned. We believe this to be caused by the challenges in measuring customer perceived value, especially in the phase prior to the market launch of a product. Business models tend to view customer perceived value as what the firm believes the customer might find valuable. In the literature on business models we reviewed, this was dominantly considered a given fact and not defined more closely.

Throughout our investigation of the value topic, we found that the added value theory (see [6], [7]) could fill a gap in the business model construct. Brandenburger builds upon game theory and argues that added value equals the "total value created with [the respective company] in the game, minus total value created without [the respective company] in the game", thus allowing for a better understanding of how value is created in a cooperative process and how it is captured in a competitive process in the market.

As a second focus of value theories, we chose to put a focus on the concepts of value-in-use (based on the customer perceived value model be Heinonen [14]). In compliance with Macdonald et al. [10], we define value-in-use as "a customer's outcome, purpose or objective that is achieved through the service".

What value-in-use implicates is change: As use is a continuous activity and the customer lives through a variety of stages throughout the use or consumption of the product or service, the values a product or service emits through its use will change. From the usage premiere to frequent use and finally declining use phases, the value of the product changes. This is also coherent with the subjective theory of value, which states that value is created by the subjective experience of the product's user, not by how much the production of the good cost [28]. We investigated whether these three types of value – perceives value, value-in-use, and added value – were considered in existing literature.

3 Results

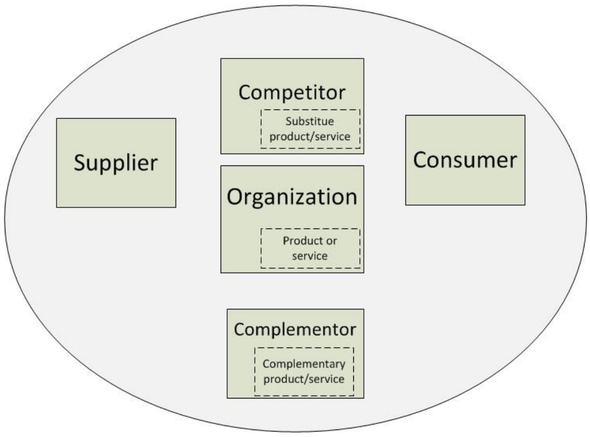

Figure 1. Basis For Analysis.

As the basis for the analysis and review of the existing models we built upon Porter's five forces model [26] with the central element being the rivalry among existing firms and the factors threat of new entrants, threat of substitute products (or services), determinants of supplier power and determinants of buyer power. However, based on the theory of value networks [30] and the fragmentation of the market with the large amount of third-party suppliers found today for all kinds of products and services, we felt that the aspect of partners or providers of complimentary products and services was yet missing from the picture. Thus, we decided to support this overview with an element from cooperative game theory [5] which adds the complementor component to the picture of market forces in a dynamically evolving market environment. This very basic overview as shown in figure 1 of actors and elements supports the comparison of business model concepts and research streams.

For the analysis, we focused on two different aspects: First, we examined the components attributed to each business model concept in order to see what parts of the above pictured scheme were considered in the concept in which way. Second, we laid special attention on the value aspects of each business model as described in the previous section to see where authors localize creation and appropriation of value.

We categorized the analyzed business models in three different purposes or contexts, namely e-commerce, strategy and organizational, and innovation and technology. The categorization has evolved from the background of the researchers, applied theories and stated focuses and contexts of the respective business model as well as implementation examples if provided. In this categorization we also examined suggestions from other authors who conducted state of the art analysis prior to our work.

In terms of value creation and capturing, we learned that most authors do not explicitly differentiate between the two processes. Value is something attributed to a product or service and offered to the customer and only seldom brought in context with a process.

3.1 E-commerce stream

This stream is focused on business in the field of online commerce and emphasizes networks, roles and players within the characteristics of the internet (a further development is the mobile web which is more and more addressed in current works, e.g. De Reuver and Haaker whose work focuses on the design of business models for context-aware mobile services [10]). In an extended definition, this stream includes business models for novel mobile and web technologies and their commercialization, thus blending partially with the innovation and technology stream that will be introduced in a further sub-section. The e-commerce stream includes authors such as Mahadevan [11], Applegate [2], Leimeister and Krcmar [17], and Osterwalder [25] who offer definitions and components for business models. Additionally, the authors in this stream frequently offer differentiations and categorizations of different types of business models, depending on a) the company's role in the value network or b) the pricing model.

An essential characteristic of the e-commerce stream is the webbed structure of this specific field. Thus, the authors emphasize actors and their roles as well and benefits and value for them. Stabell's and Fjeldstad's introduced concept of value networks [30] provides a useful basis for how value is created in the e-commerce stream. However, even though the overall characteristics allude to a value network structure, the authors see value creation mostly within the company and transported outwards in form of the value proposition that is offered to the customer. Only a small number of the authors explicitly view and define value as a two-way construct and extend their focus to the network (e.g., Applegate 2001 [2]).

In this stream, the main part of the value of a product or service is conceptually created within the organization aided by external factors such as suppliers and complementors. The value creation takes place within the organization and/or with the aid of its partners and is finished before the customer buys the product: Value is offered to the customer as value proposition and transferred (e.g., Osterwalder 2004 [25]). The creation process follows roughly the value chain approach; Mahadevan [11] refers to it as the value stream.

Some authors take up the paradigm of open innovation and co-creation which leads to a more networked creation of value and a greater tendency towards the applicability of value-in-use. Tikkanen et al., for example, describe a network of relationships which forms the basis for value creation in a networked market [32]. In this aspect, the e-commerce stream is close to the innovation and technology which will be presented in the following sections.

The authors in this stream also view a general change of paradigms concerning value architecture in the market. They argue that there is a change from linear value chains to value networks and offer examples from the automotive industry, cloud computing and also e-commerce [16]. This supports our belief that value networks, where numerous actors add a multitude of value tidbits, become relevant in many industry fields.

However, none of the authors go more deeply into the concepts of value or different types of within the business model, given that such a great importance is attributed to the value proposition.

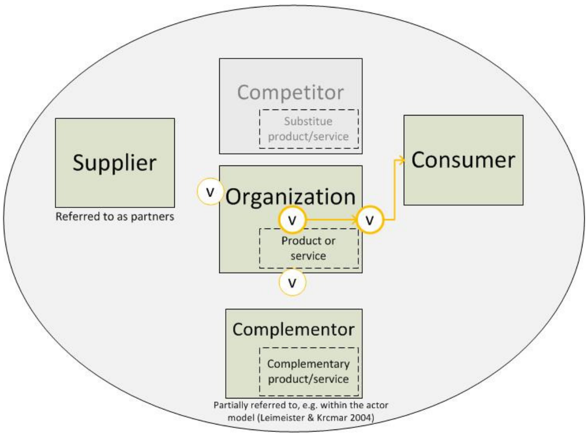

Figure 2. E-commerce stream.

Figure 2 illustrates on overview of the tendency in elements and value creation in the e-commerce stream. Suppliers are referred to as partners or actors in the cost structure, complementors are only mentioned within the actor model of Leimeister and Krcmar which is part of a business model for virtual communities [17].

3.2 Strategy and organizational stream

In this stream, the business model is seen as the follow-up or realization of the strategy and borrows or extends elements from strategy theory. The strategy stream sees the use of a business model in the operationalization of a company's strategy, putting vision, mission and objectives in tangible elements. Authors in this stream include Richardson [27] who provides the definition of a business model as bridging strategy formulation and implementation, Casadesus-Masanell and Ricart [8] who see the business model as a reflection of the firm's realized strategy with a set of choices and consequences based on the work of Shafer, Smith and Linder [29]. Furthermore, Amit and Zott [1], Wirtz [33], Margretta [22], and Teece [31] have also contributed to this section.

In terms of components, this stream naturally draws from the characteristics of a business strategy. Although this stream includes competitive and external market factors; it omits, however, the role of complementors to a large extent. It is assumed that this is due to the very company-specific and process-focused characteristic of this stream.

While we at first wanted to distinguish another, very similar stream that tends towards a more financial-oriented perspective, we decided to join these two streams together as the differences are minimal. The financial sub-stream originates from business research and is, as the name suggests, strongly focused on financial aspects, internal organizational aspects as well as company processes. Wirtz sees it as one of three main streams in his research on business models (next to the technology and the e-commerce stream) [33]. Authors that focus on this sub-stream include Linder and Cantrell [19], Tikkanen et al. [32], Normann [24], and Eisenhardt and Sull [11]. The latter discuss strategy as simple rules and thereby offer an approach that is similar to many of the aforementioned business model approach – although it is not explicitly called a business model.

The authors of the strategy stream build strongly on the concept of the value chain (illustrated in figure 3) by Porter and see the value creation mostly within the company, where the interaction of departments and intra-organizational actors leads to value that is transferred to the customer. This concept is, for example, extended by Amit and Zott who view the business model as an artifact explaining value creation in networks [1]. They argue that value is created by the company on one hand, but also through utilizing the influence of complementarities and other external factors on the other hand. Thus, they see value as something that can only partially be influenced by the company – the rest is based on given external market factors which also play an important role in this stream as opposed to the other streams.

Shafer, Smith, and Linder see a value proposition as a strategic choice that is offered to the customer. They also propose the thought of a value network in which customer information and customer relationships provide the basis for the successful transfer of the value proposition [29]. Casadesus-Masanell and Ricart follow this notion and further extend the value aspect to the creation of value, the capturing of value and the value network. While they see the creation of value as a question of company-internal resources and assets as well as processes and activities, the capturing of value consists mainly of financial aspects (cost, profit etc.) [8].

Concerning the placement of value, Normann for example sees two different value aspects in the elements of the business model: the external environment, its needs and what it is valuing, and the internal value factors [24]. McGrath and MacMillan take the value concept one step further by picturing how inputs are converted into valuable outputs and also encompassing the customer’s willingness to pay for these valuable outputs. The perceived value perspective is taken on in this stream, leading to a view of the business model from the customer’s side [23].

Figure 3 provides an overview of tendencies of elements and value localization in this stream. Note that the complementor aspect is, as mentioned aforehand, hardly addressed at all and therefore marked in gray.

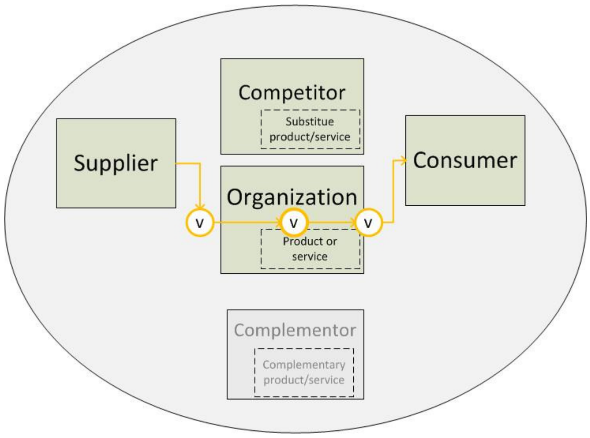

Figure 3. Strategy and organizational stream.

3.3 Innovation and technology stream

The innovation and technology stream bases its business modeling efforts on the thought that innovative products need special attention for their business models to succeed in the market. The other approach in this stream is the innovation of business models themselves (i.e., by adding, removing or altering individual components such as adapting the pricing model to, e.g., a freemium model) in order to be capable of competing in the market. This process is often referred to as business model innovation (see, for example, [9]). As the innovation and technology stream is close to the e-commerce stream, we see very similar business model approaches in terms of components and also value aspects.

Authors include Björkdahl [3], Johnson and Suskewicz [15], Wirtz (from a technical perspective) [33], Linder and Cantrell [18], and Ghaziani & Ventresca [12].

They try to create a more holistic picture and take both competitors and complementors as actors as part of their business model elements. This stream also tries to move the aspect of sustainability into focus. It is argued that sustainability will ensure long-term success as opposed to a short rise and quick fall in the dynamic market. Johnson and Suskewicz for example present an approach on how to launch a "clean-tech" economy. This aspect eventually leads to placing elements such as external market factors, market trends, and future developments into the business model, thus extending it beyond the company's boundaries [15].

The innovation stream offers the most comprehensive set of value definitions and value allocations of all streams. The reason for this lies in the fact that many authors see open innovation as an essential approach, and view value creation as the immediate result of innovation conducted at different points of the business model or business processes. Giesen et al., as an example, view value creation in three different aspects: supply chain innovation, revenue stream innovation and innovations in value chain positioning which includes complementarities and customers as relevant new positions [13].

In general, the concept of the value network is applicable is this stream, as it extends the business model beyond the company's boundaries (as mentioned above) and tries to find connections to other market players in order to support innovations. Especially in the current social networking era in which users share opinions and recommendations but also alternative uses of products and services, the users start to create value in forms the company might not have anticipated in terms of what they perceive the value of the good to be.

Prominent examples are those of Lego Mindstorms, where the inputs and ideas of customers were at first banned due to hacking accusations, but eventually supported and used for further product development and marketing. Another example is that of weblogs such as "Food on my Face" that provide facial and hair care tips using everyday products and grocery supplies.

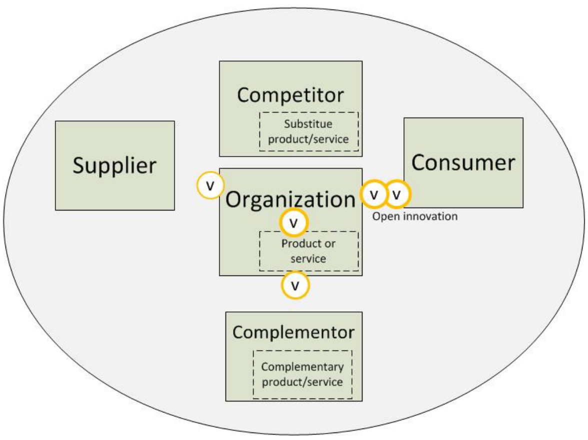

Figure 4. Innovation and technology stream.

Figure 4 illustrates business model elements and value creation points as portrayed in this stream. The stream offers a very holistic picture of the market.

3.4 Summary

On the previous pages, we presented an overview of business models with a strong focus on value creation and illustrated different streams or origins of these mostly conceptual models.

The process of creating and capturing value which has been strongly emphasized in game theory is only rarely addressed in the business model approaches reviewed. It seems that value creation is a process clear enough not to be addressed separately, as it is, implicitly, already partially found in existing elements and process descriptions of most business model approaches.

The analysis showed that the lack of consensus in the area of business model research has additionally led to numerous approaches especially in terms of value creation and the value proposition. In general, we find this to be a welcome fact in the phase of experimentation, but the multitude of different synonymous terms lead to a certain confusion and insecurity.

Apart from that, an application of the mostly conceptual models to real economic situations is very rare at the moment. We hope to encourage further discussion and a convergence of existing approaches – both in the academic and the economic world.

In conducting this first state of the art analysis and creating a systematic overview of business model concepts and placing the approaches to value creation on these maps, we laid the first steps in finding a way to create a customer-centric, value-oriented business model concept and methods for engineering and evaluating business models prior to the related product or service.

4 Conclusion and future work

The three streams view and allocate value very differently and provide us with a multitude of possibilities to draw from when creating a business model.

However, especially for uninformed users this plethora of possible approaches can pose a problem. That is why we propose a value-based user-centric approach to designing a business model. Based on the insights gained through the analysis of the current business model research state of the art, we find that there needs to be a differentiation of business modeling approaches based on several factors and questions concerning value, that need yet to be answered:

- What is the object that bears the potential to emit value when in use (good or service)? How does it change throughout the course of its production, marketing, and use?

- Who is the creator of value, e.g., the user of the good or service? What are his or her beliefs and expectations?
- Can the value that is created through use be transferred to the next instance in the value chain or close node in a value network or does every new usage process entail an entirely new value creation process?
- Can context factors that influence the creation of value (temporal, spatial, technical, functional; as described by Heinonen [14]) as well as the quality of the value (emotional, pragmatic) be clustered to create value templates?

The aspect of capturing value is closely related to the customer's willingness to pay as described by McGrath and MacMillan [23]. Thus we propose to not only focus on the value creation process but also on the customer-sided willingness to pay to correctly portray the interrelated creation and appropriation of value by answering the above noted questions.

For future advancements in this direction, we plan to set up a user-centric, value-oriented business model architecture which includes evaluation mechanisms that allow testing of a business model in a secure environment before it is tested on the market. It is our objective to create a business model approach which provides a clear value stream and allows a tangible illustration of the value network built around a product or service.

In various discussions with colleagues with academic and economic background, a large amount of additional aspects was brought up. They pose further directions in which to extend the concept and the research basis and currently serve as impulses for future discussions. These topics are:

- Customer journey: This term emerged from service design and service engineering literature and describes the time from which the customer first learns of the product or service (expectation) throughout the first usage phase until after the user decides to refrain from using the product or service. We believe that there can't be a value perception independent of the customer journey context because of different reality constructions and mindsets in the respective phases (see questions above: beliefs and expectations).
- The discrepancy between perceived value and a company being able to create value: We have argued on the previous pages that value is created through use. The question that needs to answered within this context is that of the transferability of value, thus bridging the aspects perceived value, value-in-use, and added value.
- Viability of a business model: From a very practical point of view that requires a written manifest of a business model, we need to clarify how simple a business model or value map can it be, or rather, how complex it must be to be truly useful for a practical application.

We hypothesize that value is created at various points of the production and usage process within the value network. We argue that value for the customer is not created by the company but through the customer using the product or service, meaning the value creation is in fact a joint venture between the company and the consumer: the company providing the basis, the customers using the basis for their subjective value creation process.

We believe that a business model must be based on value, e.g., the difference between benefits and sacrifices that poses the "cure" for a customer or business pain or necessity the future consumer bears. That is why we define each transaction or process in the production and life cycle of a good or service as value creation, modification or appropriation – be it the product's development process where value is added at every stage of the production process or even its use which leads to an imminent creation of value to the user.

When we think about the company as a costumer of its supplier, the use of the product or service would in this case be the altering, enhancing, repackaging and processing of the raw product, thus the company creates value through the modification or transformation at this point and adds it to the product or service. Value is what the next actor in the value chain or network perceives. We hypothesize that the value of a product or services changes throughout their lifecycle, the customer journey.

Including the competitor aspect is important as value is always relative to the next best alternative. Including the complementor aspect is important as added value can sometimes only be found when adding a complementing product or service. When viewing the business case from the value perspective, the importance of different elements is revealed.

We believe that a more dedicated approach to value in business models is necessary for further advancement and the creation of more useful business model. Especially three aspects of value are yet to be more closely examined in the context of business model research and brought into the business modeling process: perceived value, added-value theory, and the theory of value-in-use. Especially the latter is important in the current era of social networking in which consumers use blogging and social networking services to exchange not only product reviews but also ideas on different usage of products.

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