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Business model design: conceptualizing networked value co-creation

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Abstract

Purpose: A common thread in the modern marketing theories, such as service-dominant logic (Vargo and Lusch, 2004) and viable systems approach VSA (Golinelli *et al.*, 2002), is the notion value co-creation: the locus of value creation is no longer perceived to reside within firm boundaries but value is considered to be co-created between various actors within the networked market. The evolution of value creation, from value creation by the manufacturing firm to value co-creation in a network, necessitates a corresponding change in the concepts used to depict value creation. The present research investigates business models as a broader conceptualization of value co-creation that captures this change.

Design/methodology/approach: The topic is approached by a combination of literature review and interactive research (Gummesson, 2002a), including interactions with managers from 12 international companies.

Findings: Business models are defined as configurations of twelve interrelated elements, covering market, offering, operational, and management viewpoints. The effectiveness of a business model in value co-creation is defined by the internal configurational fit between all business model elements and the external configurational fit between provider's and customers' business models.

Practical implications: A firm can radically improve the value co-creation by designing business models that have high degree of internal and external configurational fit.

Originality/value: For a scholarly audience the article contributes to the discussion on value co-creation by providing a conceptualization of the business model construct depicting the value co-creation in a network. For a practitioner audience it offers ideas for improving business performance through conscious business model development.

Keywords: Business model, value co-creation, systems theory, network, configuration

Research paper

1 Introduction

The transition from a goods-dominated, “inside-out”, value chain paradigm towards a knowledge-intensive, collaborative, resource integrating, value network paradigm has led to a situation where firm boundaries, as well as industry and country boundaries, are becoming increasingly permeable, fuzzy and fleeting (Day, 1994; Dyer and Singh 1998).

This transition has evoked a keen interest in value creation. For example, the service-dominant logic (SD logic) proposes that service is the fundamental basis of exchange and all social and economic actors are resource integrators that interact through mutual service provision to co-create value (Vargo and Lusch, 2004). In a similar vein, the viable system approach (VSA) suggests that every business is a system, immersed in a relational context looking for viable competitive profiles viability through interaction with other actors (Golinelli *et al.*, 2002). Similar systemic view has also been discussed in the Industrial Marketing & Purchasing Group (IMP Group), resulting into frameworks such as the actors-resources-activities model (Håkansson and Johansson, 1992). Lately, the service-dominant logic has suggested that markets are spaces where firms deploy and integrate operant and operand resources to co-create value – instead of being places where demand and supply meet and reach equilibrium as neo-classical economics suggests (Arnould, 2008; Lusch and Vargo, 2006; Storbacka *et al.*, 2008; Vargo, 2007; Vargo and Lusch, 2008b).

A common thread in these research schools is the notion value co-creation: the locus of value creation is no longer perceived to reside within firm boundaries but value is considered to be co-created between various actors within the networked market. This development poses major managerial challenges: how can the focal firm manage networked value co-creation? The evolution of value creation, from value creation by the manufacturing firm to value co-creation in a network, necessitates a corresponding change in the concepts used to depict and manage value creation. Zott and Amit (2008) suggest that *business models* represent a broader conceptualization of value co-creation that captures this change. Business models are externally oriented and address questions like: how to connect with factor and product markets, which parties to link to the focal actor and what exchange mechanism to adopt, what resources and capabilities to deploy to enable exchange of goods or information, how to control the interaction, and what incentives to use (Zott and Amit, 2008)?

Some business model definitions have been proposed in the existing literature (cf. Amit and Zott, 2001; Chesbrough and Rosenbloom, 2002; Magretta, 2002; Osterwalder *et al.*, 2005; Storbacka and Nenonen, 2009; Zott and Amit 2008). However, the business model research is only just emerging with no commonly agreed definitions. In particular, the findings of Mäkinen and Seppänen (2007) indicate that there is considerable room for conceptual development related to the business model construct as the current definitions comply poorly with the scientific taxonomical criteria. Additionally, the business model construct has not yet received wide-spread attention in the marketing literature, even though the construct could considerably enrich the existing discussion on value co-creation.

Thus, the purpose of this paper is to conceptualize the business model construct and to discuss its implications for the management of value co-creation in a business network. The paper is disposed in the following way. First, we conduct a literature review of the existing conceptualization of the business model construct. Second, we describe the research process and the used methods. Third, we give a description of the developed framework and describe the configurative elements of the business model in more detail. Fourth, we discuss how the business model framework helps to

understand networked value co-creation. Finally, we conclude by identifying future research opportunities, and managerial implications of the research.

2 Business models in literature

According to the review conducted by Osterwalder *et al.* (2005), the term 'business model' is a relatively young one. It appeared the first time in an academic article in 1957 (Bellman *et al.*, 1957) and it was first used in the title of an academic article in 1960 (Jones, 1960). Similar constructs such as "business idea" (Normann 1977), and "service management system" (Norman 1983) have also been suggested earlier. However, the term gained more wide-spread popularity from the 1990's onwards, when business models and the changing firm boundaries were discussed in an internet context (Afuah, 2003; Afuah and Tucci, 2000; Osterwalder, 2004). In recent years, the business model concept has been used as a general construct explaining how a firm is interacting with suppliers, customers and partners (Zott and Amit, 2003). It is possible to identify several studies discussing the business model concept in the current management literature. In the present research, a comprehensive literature review of the studies providing conceptualizations of the business model concept was conducted. Table 1 summarizes the main findings of the literature review.

Table 1. Overview of existing business model studies

Study	Year	Definition of a business model	Business model concept elements
Amit & Zott	2001	"A business model depicts the content, structure, and governance of transactions designed so as to create value through the exploitation of business opportunities."	<ul style="list-style-type: none"> • Content of transactions • Structure of transactions • Governance of transactions • Value creation design
Chesbrough & Rosenbloom	2002	"We offer an interpretation of the business model as an construct that mediates the value creation process."	<ul style="list-style-type: none"> • Value proposition • Market segment • Structure of value chain • Cost structure and profit potential • Position within value network • Competitive strategy
Magretta	2002	"Business model answers the questions such as who is the customer, what does the customer value, how do we make money in this business, what is the underlying economic logic that explains how we can deliver value to customers at an appropriate cost."	<ul style="list-style-type: none"> • Customer definition • Value to customer • Revenue logic • Economic logic
Osterwalder <i>et al.</i>	2005	"A business model is a conceptual tool that contains a set of elements and their relationships and allows expressing the business logic of a specific firm. It is a description of the value a company offers to one or several segments of customers and of the architecture of the firm and its network of partners for creating, marketing, and delivering this value and relationship capital, to generate profitable and sustainable revenue streams."	<ul style="list-style-type: none"> • Value proposition • Target customer • Distribution channel • Relationship • Value configuration • Core competency • Partner network • Cost structure • Revenue model
Shafer <i>et al.</i>	2005	"Business is fundamentally concerned with creating value and capturing returns from that value, and a model is simply a representation of reality. We define a business model as a representation of a firm's underlying core logic and strategic choices for creating and capturing value within a value network."	<ul style="list-style-type: none"> • Strategic choices (e.g. customer, value proposition, capabilities, pricing, competitors, offering, strategy) • Create value (incl. resources/assets, processes/activities) • Capture value (incl. cost, financial aspects, profit) • Value network
Tikkanen <i>et al.</i>	2005	"We define the business model of a firm as a system manifested in the components and related material and cognitive aspects. Key components of the business model include the company's network of relationships, operations embodied in the company's business processes and resource base, and the finance and accounting concepts of the company."	<ul style="list-style-type: none"> • Material aspects: strategy & structure, network, operations, finance & accounting • Belief system: reputational rankings, industry recipe, boundary beliefs, product ontologies

Voelpel <i>et al.</i>	2005	“The particular business concept (or way of doing business) as reflected by the business’s core value proposition(s) for customers; its configured value network to provide that value, consisting of own strategic capabilities as well as other (e.g. outsourced/allianced) value networks; and its continued sustainability to reinvent itself and satisfy the multiple objectives of its various stakeholders.”	<ul style="list-style-type: none"> • Customer value propositions • Value network configuration • Sustainable returns for stakeholders
Chesbrough	2007	“The business model performs two important functions: value creation and value capture. First, it defines a series of activities, from procuring raw materials to satisfying the final consumer, which will yield a new product or service in such a way that there is net value created throughout the various activities. Second, a business model captures value from a portion of those activities for the firm developing and operating it.”	<ul style="list-style-type: none"> • Value proposition • Target market • Value chain • Revenue mechanism • Value network or ecosystem • Competitive strategy
Zott & Amit	2007	A business model depicts the content, structure, and governance of transactions designed so as to create value through the exploitation of business opportunities. A business model elucidates how an organization is linked to external stakeholders, and how it engages in economic exchanges with them to create value for all exchange partners.	<ul style="list-style-type: none"> • Content of transactions • Structure of transactions • Governance of transactions • Value creation design • Links to external stakeholders
Johnson <i>et al.</i>	2008	A business model consists of four interlocking elements (customer value proposition, profit formula, key resources, key processes) that taken together create and deliver value.	<ul style="list-style-type: none"> • Customer value proposition (incl. target customer, job to be done, offering) • Profit formula (incl. revenue model, cost structure, margin model, resource velocity) • Key resources • Key processes (incl. metrics, rules & norms)
Zott & Amit	2008	“The business model can then be defined as the structure, content, and governance of transactions between the focal firm and its exchange partners. It represents a conceptualization of the pattern of transactional links between the firm and its exchange partners.”	<ul style="list-style-type: none"> • Structure of transactions • Content of transactions • Governance of transactions • Transactional links to exchange partners
Storbacka & Nenonen	2009	“Business models are defined as configurations of interrelated capabilities, governing the content, process and management of the interaction and exchange in dyadic value co-creation.”	<ul style="list-style-type: none"> • Content of exchange & interaction • Process of exchange & interaction • Management of exchange & interaction

Even though all investigated studies propose different definitions for business models, it is possible to identify certain similarities. First, the majority of the business model definitions include *customer value creation* as one of the core elements. Customer value creation is discussed under various terms such as ‘value creation design’, ‘value proposition’ or ‘create value’, but the main content of these terms is the same: the business model should explain how the firm creates value for its customers. Second, *earnings logic* is also mentioned in various business model definitions (with terms such as ‘profit potential’, ‘revenue model’, ‘revenue logic’, ‘capture value’, ‘profit formula’, or ‘returns for stakeholders’). Thus, it can be concluded that the business model should also explain how the firm yields a profit from its operations. Third, many business model definitions discuss the *value network* of the firm with terms such as ‘structure of value chain’, ‘partner network’, ‘value network’, ‘links to external stakeholders’, or ‘transactional links to exchange partners’. Therefore, the findings of the literature review indicate that the business model construct should be also externally oriented and illuminate the relationships that the firm has with the various actors in its value network. Fourth, various business model definitions discuss the *resources and capabilities* that the firm has (with terms such as ‘core competency’, ‘resource’, ‘asset’, or ‘processes’, ‘activities’). Therefore, it can be concluded that a comprehensive business model framework should also illustrate the resource and capability base of the firm. Finally, the majority of the analyzed business model definitions discuss some types of *strategic decisions, choices or principles*. These decisions are discussed under terms such as ‘target market’, ‘target customer’, ‘position within

value network’, ‘competitive strategy’, or ‘rules’. Thus, the literature review indicates that the business model construct can also explicate the major strategic decisions made by the firm.

Even though there is no commonly agreed definition of the business model, it is possible to find some categorizations of the existing business model literature. Osterwalder *et al.* (2005) classified the business model articles into three categories: (1) studies that describe the business model concept as an abstract overarching concept that can describe all real world businesses, (2) studies that describe a number of different abstract types of business models or classification schemes, and (3) studies presenting aspects of or a conceptualization of a particular real world business model.

3 Methodology

The research discussed in this paper was carried out during a period of eleven months. The research involved a consortium of twelve multi-nationally operating firms from different industries: power and automation technology, chemicals, electronics, utility, printing, ICT, real estate, machinery, metals, telecommunications, and forestry. All participant firms participated in the process as they have a keen interest in exploring the business model: how it should be conceptualized, how it influences earnings logic, and how it can be actively managed. The interaction with the participating firms involved senior level executive vice presidents and their direct reports.

Eisenhardt (1989) has pointed out that conceptual frameworks usually arise from the combination of previous literature, common sense, and experience. In the present research we conducted interaction research (Gummesson, 2002a), in which we combined literature reviews with experience and learning from field-based research with “reflective practitioners” (Gummesson, 2002b; Schön, 1983).

The research process consisted of three phases: (1) the pre-understanding phase aimed at collecting the initial primary and secondary data on business models and drafting a first conceptualization of the business model construct, (2) the model development phase aimed at fine-tuning the construct conceptualization in cooperation with the participant firms, and (3) the interpretation phase during which the theoretical and managerial conclusions were created and the research report was written. Between the phases we conducted two full-day research workshops with 2-3 representatives from each participating firm. This process is illustrated in detail in Figure 1.

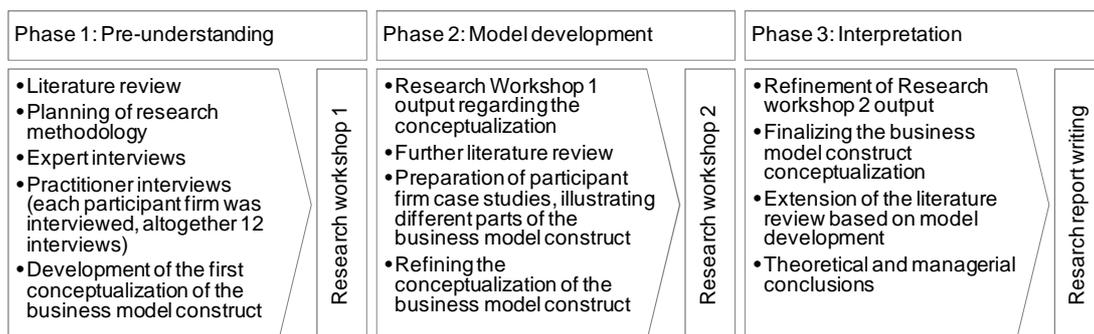


Figure 1: Research process

During the pre-understanding phase, each participating firm was interviewed (all in all 12 interviews between 75 and 120 minutes) in order to understand their views on business models. Additionally, the researchers reviewed the literature and based on systematic combining of

literature and empirical data (Dubois and Gadde, 2002; Kovacs and Spens, 2005) an initial conceptualization of the business model construct was developed. Following this work, the first research workshop was held. This workshop was directed at identifying additional viewpoints to the initial business model conceptualization. After a briefing the participants were divided into groups and asked to relate their business models to the initial framework. During the workshop, the researchers documented the group work results and the consequent discussions, and this formed a crucial input for further development of the business model construct and its elements.

During the model development phase, the researchers analyzed the output of the first workshop with reference to a further literature review, data from the interviews and other data collected from the companies during the first phase of the research. Based on this analysis, they developed a new version of the conceptual model. In a preparation for the second research workshop, each participant company was asked to prepare a case study on how a specific element of the business model construct works in their company. In the second research workshop the participant company case studies were presented and discussed. Based on this input, the emerging business model construct and its elements were evaluated and developed further.

During the interpretation phase, the authors made a synthesis of the output from the second workshop where participating companies presented case studies illustrating the operationalization of the different elements of the business model construct. The researchers extended their literature review as they developed the model further. After the final conceptualization of the business model construct was agreed upon, the researchers discussed the theoretical and managerial conclusions. After this, the final research report was written. Parts of the results from the research process have been published in Storbacka (2006), and have also influenced the content of Storbacka *et al.* (2008), and Storbacka and Nenonen (2009).

The validity of the business model framework has been evaluated as the researchers have used the framework in five interventions, where the framework has been used as an analytical tool in strategy definition projects. Some alterations to the model have been made based on these projects experiences.

4 Conceptualization of the business model construct

Building on the literature review and the research process carried out, we propose that the business model framework contains three types of components: design principles, resources and capabilities. The purpose of the business model construct is to depict the managerial opportunities for a focal firm to influence value co-creation.

Design principles are the first components of the proposed business model framework. Baldwin and Clark (2006, p. 3) define designs as ‘instructions based on knowledge that turn resources into things that people use and value.’ According to Baldwin and Clark (2006), designs are created through purposeful human effort and that only through the agency of designs can knowledge become the basis of real goods and services. In the proposed business model framework the design principles guide the organizational capabilities in such a way that resources can be optimally integrated in the value co-creation processes.

The second component of the proposed business model framework is *resources*. The importance of resources in value co-creation is highlighted e.g. in the S-D logic, which states that the application of operant resources, i.e. service, is the fundamental basis of exchange, and that all social and economic actors are resource integrators (Vargo and Lusch, 2008b). Building on Vargo and Lusch

(2008a), resources of a firm can be further divided into operand and operant resources. Operand resources are usually tangible, static resources that require some action to make them valuable whereas operant resources are usually intangible, dynamic resources that are capable of creating value.

The third component in the proposed business model framework is *capabilities*. Day (1994, p. 38) defines capabilities as ‘complex bundles of skills and accumulated knowledge, exercised through organizational processes, that enable firms to coordinate activities and make use of their [resources]’. In the present research capabilities are, drawing on Day (1994), and Morgan and Hunt (1999), defined as a firm’s ability to utilize its operant resources effectively (to achieve goal). Ramirez and Wallin (2000) and Blois and Ramirez (2006) have suggested a way to categorize capabilities based on whether the value finally created is internally or externally focused. Internal capabilities aim at improving the efficiency and operational performance of key business processes, such as manufacturing processes. Relational (inter-organizational) capabilities are the firm’s abilities to effectively manage practices related to the content and structure of interaction and exchange between and supplier and customer, i.e. referring both to supplier and customer relationships.

All of the proposed constituents of the business model are present in four dimensions: *market*, *offering*, *operations*, and *management*. Thus, the proposed business model framework consists of twelve interrelated elements, i.e. design principles related to market, resources related to market, capabilities related to market, and so forth. The proposed business model framework is illustrated in Table 2.

Table 2. Business model framework

	Design principles	Resources	Capabilities
Market	Market & customer definition	Customers & brand	Market & customer management
Offering	Offering design & earnings logic	Technology	Offering management & R&D
Operations	Operations design	Infrastructure, suppliers & partners	Sourcing, production & delivery
Management	Management system	Human & financial resources	Management & leadership

In the proposed business model framework, the market-related design principles are *market and customer definitions*. These design principles answer to questions such as how the firm defines its market, how the firm positions within that market, what is the firm’s go-to-market or channel strategy, what are the firm’s target customers based on its customer definition, and how the firm has segmented its existing and potential customer base. The main market resources related to markets are *customers and brands*. Both types of resources have received a fair attention in the modern marketing literature, customers in the customer asset management literature (e.g. Bell *et al.* 2002; Bolton *et al.* 2004; Hogan *et al.* 2002; Kumar and George 2007) and brand equity literature (e.g. Aaker 1992; Baldinger 1990; Farquhar 1990; Keller 1993). The main market-related capabilities can be defined as *market and customer management*. Examples of such capabilities are customer and market insight processes (Day 1994) market making and shaping, sales and account management, customer experience management, customer relationship management and customer service management.

The design principles related to offering are called *offering design and earnings logic* in the proposed business model framework. Offering design outlines the offering components available and the possible offering configurations. Earnings logic defines how the firm makes a profit from its operations, and it is affected by the firm's pricing logic (selection of price carries and level of price bundling), cost structure, and asset structure. The main offering-related resource is the *technology* and the related intellectual property rights. The main offering-related capabilities are *offering management and R&D*. Under offering management firms execute processes such as product/service development, and product/category management.

The *operations design* contains the design principles guiding the firm's operations. Such principles relate to make-or-buy decisions, the modularity of production processes, etc. The main resources associated with operations are the firm's *infrastructure, suppliers and partners*. In addition to the physical infrastructure of factories and machines, the firm's infrastructure cover also items such as information and communication technology infrastructure and the geographical coverage of the firm. In the current networked economy the list of suppliers and partners can include various partners such as raw material suppliers, channel partners, research partners, production partners, and so forth. Operations capabilities relate to how the firm conducts its *sourcing, production, and delivery processes*. These capabilities relate to supply chain management, the capabilities needed for manufacturing and assembly, management of the delivery channel, and invoicing of delivered offerings.

The design principles related to management can be called *management system*. In their management systems, firms design various topics such as organizational structure, roles and responsibilities, remuneration, and meeting structure. *Human and financial resources* are the main resources associated with the management dimension of the business. In addition to the existing human resources, many firms pay a considerable attention to their future competence supply. The main management capabilities in the proposed business mode framework are called *management and leadership*. Capabilities related to management and leadership can be found from e.g. planning and control processes, human resource development processes, and the firm's strategy process.

Interestingly, the research did not reveal any business model design to be a superior per se. On the contrary, the findings of the research indicate that various business model designs can create equally solid financial results – if the business model “fits the firm and its customers”. This finding creates a logical link to the literature on configuration. According to Meyer *et al.* (1993), configurations are constellations of design elements that commonly occur together because their interdependence makes them fall into patterns. Miller (1996, p.509) suggests that configuration “can be defined as the degree to which an organization's elements are orchestrated and connected by a single theme”. A key objective of configurations is to create harmony, consonance, or fit between the elements (Meyer *et al.*, 1993; Miller, 1996; Normann, 2001). Thus, it can be said that effective business models are characterized by the configurational fit of their elements.

Elements of a configuration interact if the value of one element depends on the presence of the other element; reinforce each other if the value of each element is increased by the presence of the other element; and are independent if the value of an element is independent of the presence of another element. A configuration with many elements that reinforce each other is can be said to have a high degree of configurational fit (Siggelkow, 2002). Identifying reinforcing business models elements could enable the discovery of generic typologies or continuums for business models (e.g. “product” vs. “solution” business models).

A particularly interesting view of configurations is the idea of equifinality (Doty *et al.*, 1993). Equifinality implies that different types of configurations lead to equally good end-results as long as they are configured in such a way that there is configurational fit between the elements. This indicates that there may be several “design themes” along which business model configurations can be developed in order to achieve equal level of configurational fit.

Therefore, it is proposed that business models should be viewed as constellations of design elements that are orchestrated by a single theme. Furthermore, it is proposed that the effectiveness of a business model in value co-creation is defined by the internal configurational fit between all business model elements and the external configurational fit between provider’s and customers’ business models.

5 Discussion – business models and networks

The purpose of the research was to conceptualize the business model construct in order to enrich our understanding of the management of value co-creation in business networks. The research process involved a consortium of twelve firms from different industries, and consisted of three phases: (1) the pre-understanding phase aimed at collecting the initial primary and secondary data on business models and drafting a first conceptualization of the business model construct, (2) the model development phase aimed at fine-tuning the construct conceptualization in cooperation with the participant firms, and (3) the interpretation phase during aimed at making the theoretical and managerial conclusions. Based on the research, a business model framework was defined as a constellation of twelve interrelated design elements, outlining the design principles, resources and capabilities related to market, offering, operations, and management. Additionally it was proposed that the effectiveness of a business model in value co-creation is defined by the internal configurational fit between all business model elements and the external configurational fit between provider’s and customers’ business models.

The present research contributes to the current marketing literature by providing a new construct further illuminating value co-creation. Additionally, the proposed business model construct is likely to enhance the existing network theories and market configuration literature.

Various research streams within marketing concur that the locus of value creation is no longer perceived to reside within firm boundaries but value is co-created between various actors within the networked market. The S-D logic (Vargo and Lusch, 2004; 2008) proposes that value is co-created as actors interact to apply resources. Payne *et al.* (2008) provide a framework illustrating the process of value co-creation. However, there is a gap in the current value co-creation literature in terms of explaining what kind of resources each actor can have and what is the interface through which actors interact to co-create value. We propose that the business model construct answers both these questions: it provides a framework through which all resources and capabilities of any actor can be presented and understood. The more in-depth understanding of the resources, capabilities, and the design principles governing them allows us to gain a deeper insight into value co-creation: which actors are likely to get involved in a process of value co-creation (i.e. compatible business models) and how much value is likely to be co-created (i.e. the internal and external configurational fit of the business models).

Network theorists have proposed various constructs that characterize network actors, such as ‘network position’ (Burt, 1992; Zaheer and Bell, 2005), ‘habitus’ (Fourcade, 2007), or calculative motives (Callon, 1998). Additionally, the actors-resources-activities model (Håkansson and Johansson, 1992) proposes that network evolves through enactment of activity links (the actors’

processes and practices are interlinked), resource ties (the resource configurations of actors are interdependent), and actor bonds (there are different kinds of bonds that influence actors in their actions and decisions). The business model framework provides a conceptualization of the resource configurations of the network actors, thus enriching the existing network theories.

There is a lively discussion going on about markets among the marketing academics. Vargo and Lusch (2008b) argue that “what is needed is a general theory of the market” (p. 3) and suggest that there are opportunities to redefine the neoclassical view on markets that is built around the notion of exchange value (Lusch and Vargo, 2006) and instead think of firms as “deploying operand and operand resources both to co-create discursively legitimated market spaces and provide inputs for value definition and delivery within them” (Arnould, 2008, p.21), i.e. to co-create markets and integrate resources (Vargo, 2007) in networks, in order to create value. Drawing on these notions and the actors-resources-activities model proposed by Håkansson and Johanson (1992), the resource integrator-resource-service model proposed by Vargo and Lusch (2008a) and the work of Araujo *et al.* (2008), Storbacka *et al.* (2008) define markets as networked configurations of value creating elements: market actors, their business models, and the practices that the market actors perform in the market. According to Storbacka *et al.* (2008), market actors negotiate through their business models which aspects of their resource and capability configurations are being used and how these configurations interact for value co-creation. This definition makes the *business model a central construct in explaining formation and the evolution of market configurations: which actors have compatible enough business models to enter common market practices and how the changes in one actor’s business model transfer through market practices to other actors’ business models* – leading to an eventual change in the entire market configuration.

6 Limitations and suggestions for further research

The present paper proposes a conceptualization of the business model construct, with an aim to enrich to current understanding of value co-creation. Therefore, it should be acknowledged that the present paper is of exploratory nature and does not provide normative guidance for designing business models for improved value co-creation. Additionally, the model development was done in cooperation with twelve companies, out of which ten have a considerable focus on B2B relationships. Thus, the applicability of the proposed business model framework should be investigated in various contexts in order to determine its universal validity.

The present study opens interesting opportunities for further research. First, further research is needed on the “design themes” for business models: are there generic design themes for business model configurations? The design literature presents concepts such as design architectures and dominant design (Baldwin and Clark, 2006) that could help in identifying business model elements that are reinforcing in nature (i.e. the value of each element is increased by the presence of the other element) or that determine the prerequisites for other business model elements. Identifying such reinforcing or defining business models elements would enable researchers to discover generic typologies or continuums for business models (e.g. “product” vs. “solution” business models).

Second, research is also needed on the existence and management of multiple parallel business models within a single firm. This relates to the fundamental concern for any organization to balance exploitation with exploration (March, 1991). Anecdotal empirical evidence suggests that firms in business-to-business markets utilize several differentiated business models simultaneously (e.g. one business model focusing on producing and delivering investment goods, and another business model focusing on providing after-sales services to these investment goods). Additionally, the modern networked markets and the dematerialization of resources (Normann, 2001) offer various

opportunities for business model differentiation; the literature discusses issues like “partnering” (Anderson and Narus, 1991) moving “from selling products to selling solutions” or towards “systems selling” (Davies *et al.*, 2006; Dunn and Thomas, 1986; Hannaford, 1976; Millman, 1996), “moving downstream in the value chain” (Wise and Baumgartner, 1999), “transitioning from products to services” (Oliva and Kallenberg, 2003). However, barring the work by Markides and Charitou (2004), there is very little academic research on the existence of multiple parallel business models, the effectiveness of managing parallel business models, the effectiveness of managing parallel business models, or the optimal formalization level of business model differentiation.

Finally, the findings of the present paper give rise to interesting research avenues related to market configurations. The modern marketing literature has suggested that markets are configurations through which firms deploy and integrate operant and operand resources to co-create value (Arnould, 2008; Lusch and Vargo, 2006; Storbacka *et al.*, 2008; Vargo, 2007; Vargo and Lusch, 2008b). The research proposes that the business model construct can be used to explain value co-creation. In a market context, the business model construct can be seen as the interface through which various actors’ resources and capabilities are orchestrated for value co-creation.

It seems plausible to expect that the transparency of business models is a key attribute in effective markets, as it makes it possible for the market actors to assess the possible fit between actors’ internal resource and capability configurations. Anecdotal evidence suggests that some markets configurations are connected to similarities in business logics or the compatibility of value propositions. It seems, for instance, that market configurations where the focal firm is involved in building an installed base of equipment will create a configurational theme that involves after-sales activities (Potts, 1988), aiming at exploiting “product lifecycles” (Knecht *et al.*, 1993, Oliva and Kallenberg, 2003). In the past, such market configuration themes have been investigated under headings such as industry logics (Prahalad, 2004) or industry recipes (Spender, 1989). We suggest that the current market configuration literature could benefit from the business model construct when depicting the structure and the evolution of market configurations.

7 Managerial implications

There are a couple of interesting managerial conclusions that can be drawn based on the present research. First, the findings of the present paper indicate that firms can radically improve value co-creation, and thus increase their share of the co-created value, by designing business models that have a high degree of internal and external configurational fit. Improved internal configurational fit can be achieved by analyzing the twelve identified design elements of the business model and modifying the potentially incompatible design elements. External configurational fit, on the other hand, connotes the compatibility of the firm’s business model with its customers, suppliers and other business partners. Higher degree of external configurational fit can be achieved both by modifying the firm’s own business model and by altering the firm’s customer, supplier and partner portfolios.

Second, the business model framework can be used as a tool in strategy work. As the business model framework makes visible all the design principles, resources and capabilities of a firm, it provides a map through which strategies can be translated into targeted change initiatives. Such detailed understanding of the business model is especially valuable when the firm seeks to alter its strategic position in the value network (e.g. moving from product business to solution business) or attempts to enter new geographical markets.

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