

Hybrid Value Creation

Understanding the Value Creating Attributes

Vivek K. Velamuri, Anne-Katrin Neyer, Kathrin M. Möslin

*Lehrstuhl Wirtschaftsinformatik I,
Universität Erlangen-Nürnberg*

1 Abstract

More and more firms shift their focus from offering standalone products or services towards hybrid value creation. While previous research clearly states four value creating attributes, their role and impact in different types of hybrid offerings is so far unclear. To close this gap, this paper investigates 52 successful offerings of hybrid value creation and provides an organizational perspective to this challenge. Using a deductive case study analysis, first distinctive clusters of hybrid value creation are identified. Next, the role and impact of the four value creating attributes for each cluster is systematically derived. As a result, a two-step strategy for the successful design of hybrid offerings is suggested: When implementing hybrid value creation, first, the type of hybrid value creation has to be determined. Second, depending on the corresponding cluster the key value creating attribute(s) need to be carefully designed. The paper concludes by indentifying further areas for research.

2 Introduction

More and more firms shift their focus from offering standalone products or services towards integrated offerings of products and services to meet specific customer demands, thus generating additional value (Brady et al. 2005b; Tukker 2004; Windahl et al. 2004). This is known as hybrid value creation. There are many arguments for this increasing popularity of such hybrid offerings in today's business environment. These arguments can broadly be classified under (1) *economic* as substantial revenue can be generated, (2) *strategic* as firms can gain a competitive advantage that is difficult to imitate and (3) *environmental* as the same economic function can be served with a reduction in the quantity of materials required to do so (Oliva and Kallenberg 2003). In addition, hybrid value creation strategy bears the potenti-

al to not only generate additional value for customers incrementally, but also to create radically new offerings and solutions even for unknown problems and demands (Möslin and Kölling 2007).

Even though firms have identified the potential of hybrid value creation, they are still not sure what really creates value in various hybrid value creation business models. To gain a deeper understanding of this phenomenon, this paper investigates 52 successful offerings of hybrid value creation and provides an organizational perspective on this challenge. To do so, we build on the following four value creating attributes identified from the literature: individualization, marketing-integration, operational-integration and firm-customer interaction. This allows us to identify which attributes create value in what type of business model.

3 Defining Hybrid Value Creation

To gain a deeper understanding of hybrid value creation, it is first important to define the concept. In order to do so, first a definition of value creation is provided and then later the denotation of the prefix “hybrid” is elucidated.

To define value creation, we need to first understand two concepts of value which are “*use value*” and “*exchange value*” (Bowman 2000). Use value refers to the specific qualities of the product perceived by customers in relation to their needs. Use value is a subjective and individualistic concept. Exchange value refers to price. It is the monetization realized at a single point in time when the exchange of the good takes place. Combining these two concepts, Lepak et al. (2007) define value creation as depending on the (relative) amount of value that is realized (subjectively) by the target user (buyer) who is the focus of value creation.

They state that for value creation to endure (1) exchange value (monetary amount) must exceed the producer’s cost (without which the producer is making a loss) and (2) this exchange value depends on the perceived performance difference between the new use value proposed and other existing alternatives the customer has (without a positive performance difference perceived by the customer, it is value destruction).

“Hybrid” in hybrid value creation denotes the presence of two separate kinds of components in an offering: (1) the presence of a product (tangible component) and (2) the presence of the immaterial service (intangible component).

Hence, this paper defines hybrid value creation as the process of generating additional value by innovatively combining products (tangible component) and services (intangible component). Along the same lines, any business model that meets the above criteria (value creation and hybridism) will be classified under hybrid value creation. The above criteria have been used to verify if the cases are correctly classified under hybrid value creation in section 4.2.

4 The Value Creating Attributes

Individualization (e.g. Hax and Wilde II 1999), marketing-integration (e.g. Foote et al. 2001), operational-integration (e.g., Sawhney 2006) and firm-customer interaction (e.g. Grönroos 2000) are the four value creating attributes identified from the literature in the field of hybrid value creation. In this section these four attributes and their roots in previous publications will be briefly explained.

4.1 Individualization

Individualization (also referred to as customization or personalization) is a value creating attribute well documented in the literature. Its role as a value driver is derived from the fact that customers are willing to pay a price premium for an individualized offering (Hart 1996; Kotha 1996). In hybrid value creation literature there is also an agreement that individualization is one the most important value creating attributes (Davies et al. 2007; Hax and Wilde II 1999; Krishnamurthy et al. 2003; Sawhney 2006). This paper identifies which part of an offering is individualized in the selected cases.

4.2 Marketing-integration

Integration is the degree to which various components of an offering (i.e., products and services) are combined or interrelated to deliver value beyond the sum of the included components (Foote et al. 2001; Krishnamurthy et al. 2003). This integration is broken down into two value generating components which are marketing (commercial) and operational (technical) integration (Sawhney 2006).

Marketing-integration (i.e., bundling) is about delivering value to customer by combining various components, which can be acquired by the customer separately, into a single transaction. The customer may benefit from consolidated vendor accountability (Krishnamurthy et al. 2003). Marketing-integration may also refer to integration across the entire customer decision-making and buying cycle, from pre-sales search to post-sale service and support. This paper identifies the various kinds of marketing-integration found in the selected cases.

4.3 Operational-integration

The second value generating component of integration is known as operational (technical) integration. It is about seamlessly linking and/or engineering the various components of an offering. The value of operational-integration depends on three main factors: the avoidance of effort, time and risk on the side of the customer (e.g., Sawhney 2006). Hybrid offerings save customers' effort and time by precombining the various elements into the desired solution. On top, they also mitigate customers' risk by shifting the complications involved in operational-

integration to the supplier. This paper identifies the various kinds of operational-integration found in the selected cases.

4.4 Firm-customer interaction

Firm-customer interaction is the fourth crucial attribute of hybrid value creation. It captures the relationship and interaction between a customer and supplier that creates value (Grönroos 2000). Webster (1992) viewed customer relationships as the key strategic resource of a business. A study on industrial purchasing has highlighted that satisfaction from the purchase process, i.e., pre-sale services such as consulting, is more likely to persuade the customer to buy future products from the same supplier than the satisfaction from the product itself (Tanner 1996). Even though many levels of relationship intensity (length/duration & breadth/scope) exist, this paper only differentiates between a transaction-based and a relationship-based firm-customer interaction. Revenue models have also been studied simultaneously as they provide a good proxy to understand firm-customer interaction (Velamuri et al. 2008).

5 Method & Data

5.1 Research design

Since relatively little is known about what creates value in various hybrid value creation offerings, an explorative qualitative research was chosen. Compared to a quantitative research approach, qualitative data gives deep insights in the phenomenon under study by considering context-specific factors, complex patterns and causal relationships. Thus, qualitative research allows discovering and generating theory in a context when relatively little is known about the underlying phenomenon (Eisenhardt 1989; Miles and Huberman 1994). In line with, this we conducted an exploratory case study with embedded units of analysis (Eisenhardt 1989; Yin 2003). To strengthen the resulting inferences a comparative case study was applied, i.e. data from several cases were gathered and examined in an iterative way (Yin 2003). The iterative process of analyzing within-case and cross-case data supported the creation of new relationships and aimed at the exploration of theoretical explanations for the phenomenon under study (Eisenhardt 1989).

5.2 Case Selection

The risk of learning from unsuccessful offerings is high as the determinants of failure are not yet well understood. Hence we strived to select only successful cases for this paper. For this we limited the selection to instances that have been identified as successful examples of Hybrid value creation in existing literature

(both academic and industry publications). Success in these papers has been defined as (1) leading to *competitive advantage* and/or (2) leading to *increased customer loyalty* and/or (3) leading to *increased revenue* and/or (4) leading to *economically viable environmental benefits*.

A starting point for this was to identify instances that could be developed into cases. Most instances were identified from academic literature (i.e., Journal papers, dissertations and unpublished resources). For this we searched the principal research-databases using key terms such as business-related services, complex product systems, customer solutions, dematerialization, full service, functional products (total care products), hybrid offerings, integrated solutions, product service bundles, product service systems, product-related services and servitization. To this we also added instances that came up in industry and consultancy reports and articles. We had to google them as they were not in the scope of the research-databases. In total 65 instances were identified, out of which 52 could be developed into well-structured one page descriptive cases based on interviews and openly available company information. The remaining instances were not included due to lack of details. After reading the resulting 52 structured case descriptions, two evaluators put them into four broad clusters based on the goal strived by each case. It must be noted that a case study in one specific category may contain elements from another category. For example, a case in that is categorized under solutions may contain elements of the leasing or embedded products.

These four cluster can be described as follows: (1) *embedded products*: contains case studies where **the primary goal is to protect a product** from competing products by enhancing it with embedded services using digital technologies (e.g., ergo meters embedded with fitness services), (2) *leasing/renting/sharing/pooling* (from now on termed as "*leasing & co.*"): contains case studies where the **primary goal is to expand the market** for capital intensive (sometimes relative) products by providing them to customers on rental- or use-basis (e.g., car sharing), (3) *mass customization*: contains case studies where the **primary goal is to provide individualized products** to end customers at a reasonable premium (e.g., customized shoes), (4) *solutions*: contains case studies where the **primary goal is to help customers focus** on their core competencies instead of worrying about aspects such as asset availability (e.g., facility management). This clustering emerged as an obvious step throughout the research process. Table 1 shows the resulting clusters, their description as well as their aspect of value creation and hybridism.

6 Data Analysis

The 52 cases were evaluated, by two researchers independently, on the four value creating attributes (individualization, marketing-integration, operational-integration, firm-customer interaction) described in section 3. For evaluation, a description for each category in each case was preferred to numeric or continuum

Table 1: The Four Clusters Based on Goals

Cluster	Description of the cluster	Aspect of value creation	Aspect of hybridism
<i>Embedded products</i>	Embedded products are offerings where traditional or new services are embedded in the product using new digital technologies to enhance the offering.	Empirical evidence available from qualitative case research such as GMs Onstar (Slywotzky and Wise 2003), Apple's iPod & iTunes offering (Auguste et al. 2006) or Adidas MiCoach (Möslein and Velamuri 2009).	Service is embedded in the product.
<i>Leasing & Co.</i>	These business models do not aim to sell the product, but the product is made available to the user via leasing & co. Products are sometimes shared by a number of users.	Reduced capital investment as well as repair and maintenance cost on the side of the customer (Tukker 2004).	Product is offered as a service.
<i>Mass customization</i>	Mass customization is about providing individualized products or services to customers.	Additional utility perceived by the customer in a mass customized product compared to available alternatives (Piller et al. 2004).	Customization is the service that is performed on the product.
<i>Solutions</i>	Solutions are seamless offerings of products and services that meet specific customer needs.	Value generation through level of customization and integration (Krishnamurthy et al. 2003).	The service is about integrating & customizing the offering.

based scale (e.g. high to low) for this study. We identified explicitly (1) what part of an offering is individualized, (2) what kind of marketing-integration is found, (3) what type operation-integration is evident and (4) what kind of firm-customerinteraction is visible. In a few instances (less than 5%) the evaluators disagreed on the attributes and in such instances they discussed with each other and came up with an agreement. A deductive data analysis was performed on the 52 cases. First, each of the four case clusters was analyzed individually and clear attribute patterns have been developed for each cluster. Later, a cross comparison of the attributes for each cluster is provided. In the following, the role and impact of the value creating attributes for each of the four identified case clusters is described in detail.

6.1 Embedded Products

In all 13 cases of this cluster the main offering is standard. This does not mean that there is no individualization involved, but rather the initiative to individualize is handed back to the customer. Either the software-based service embedded in the product is individualizable by the customers themselves or the supplier offered

further products as service, where again the customer could pick and choose at an extra cost. Only six cases exhibited marketing-integration, which is mainly limited to the availability of online stores with additional offerings. Operational-integration is crucial for the success of these offerings as it is the main value creating attribute in all offerings. Firm-customer interaction is transactional in nature with one exception. Interestingly, this exception is also the only one that used a subscription revenue model. All others used an upfront purchase model, i.e., the customer pays an exchange value which is final at the time of purchase (see table 2).

Table 2: Data Analysis “Embedded products”

<i>Embedded Products</i>	Type of individualization	Marketing-integration	Operational-integration	Firm-customer interaction
e-book reader	Add on products as service	Online store	HW & online store	T / Upfront p. + VC
Emergency services	Duration of contract	Range of services	HW & SW integration	R / Monthly rental
Fitness machines	SW program	None	HW & SW integration	T / Upfront p.
Fitness machines	SW program	None	HW & SW integration	T / Upfront p.
Fitness machines	SW program	None	HW & SW integration	T / Upfront p.
Gaming console	Add on products as service + SW	Online store	HW & SW integration	T / Upfront p. + VC
Handheld gaming	Add on products as service + SW	Online store	HW & SW integration	T / Upfront p. + VC
Music player & community	Add on products as service + SW	Online store	HW & online store	T / Upfront p. + VC
Music player	Add on products as service + SW	Online store	HW & online store	T / Upfront p. + VC
Personal trainer	SW program on the net	None	HW & SW integration	T / Upfront p.
Personal trainer	SW program	None	HW & SW integration	T / Upfront p.
Personal trainer	SW program	None	HW & SW integration	T / Upfront p.
Personal trainer	SW program	None	HW & SW integration	T / Upfront p.

Key: F-C Int. – Firm-Customer Interaction, SW – Software, HW – Hardware, R – Relationship based, T – Transaction based, Upfront p. – Upfront purchase, VC – Variable costs

6.2 Leasing & Co.

In this case cluster, individualization in all the cases is about contract volume, i.e. size or duration. Marketing-integration is omnipresent as the customer benefits from some extent of vendor consolidation in all the cases. This vendor consolidation is achieved through the realization of a single point of contact for the multi component offering. Operational-integration is only present in a few cases.

For example, in the “*DVD through post*” case the suppliers have seamlessly integrated the online portal, where the customers track their wish list, with an efficient logistics system that tracks and fulfills customer wishes. Firm-customer interaction depends on the kind of product involved. For offerings that are occasionally used (e.g., hiring of art pieces or mobile toilets for a specific occasion) firm-customer interaction is transactional in nature and supported by pay-per-use revenue models. In contrast, for offerings which are regularly used (e.g., rental coffee machines or copy machines) the firm-customer interaction is relationship based and supported by fixed monthly charges (see table 3).

Table 3: Data Analysis “Leasing & Co.”

Leasing & Co.	Type of individualization	Marketing-integration	Operational-integration	Firm-customer interaction
Art pieces	Duration of contract	Collection of art works	None	T / Pay per use
Car rental	Duration of contract	Repair & maintenance	None	T / Pay per use
Car sharing	Duration of contract	Repair & maintenance	None	R / Monthly + VC
City bikes	Duration of contract	Repair & maintenance	24/7 bike stations	T / Pay per use
Copy machines	Duration of contract	Repair & maintenance	None	R / Monthly + VC
DIY tools rental	Duration of contract	Collection of DIY tools	None	T / Pay per use
DVDs through post	Size of contract	Collection of DVDs	Website & logistics	R / Monthly
Luxury bags	Duration of contract	Collection of bags and jewelry	Website & logistics	T / Pay per use
Mobile toilets	Duration of contract	Cleaning and maintenance	None	T / Pay per use
Pet dogs	Duration of contract	Looking after the pet dogs	None	R / Monthly + VC
Trucks & moving	Duration of contract	Trucks, equipment, insurance	None	T / Pay per use
White goods	Duration of contract	Repair & maintenance	None	R / Monthly
Yacht sharing	Duration of contract	Repair & maintenance	None	R / Monthly + VC

Key: F-C Int. – Firm-Customer Interaction, R – Relationship based, T – Transaction based, VC – Variable costs

6.3 Mass Customization

Three types of individualization are present in the cases. The first type of individualization can be characterized as cosmetic, just referring to the outside appearance of the hybrid offering. The second type involves customized fabrication of the hybrid offering. The third type, present only in one case, can be characterized as combination where the base elements of the hybrid offering are combined according to individual customer wishes. Marketing-integration, in the cases studied, is limited to pre-sale online consulting, i.e., supporting the customer throughout the individualization process. Operational-integration is provided via an online configurator, which helped customers define and convey their needs to the supplier. Firm-customer interaction in this cluster is transactional by nature and is consistently supported by an upfront purchase model (see table 4).

Table 4: Data Analysis “Mass Customization”

Mass Customization	Type of individualization	Marketing-integration	Operational-integration	Firm-customer interaction
Customized beer labels	Appearance	Pre-sale consulting	Online configurator	T / Upfront p.
Customized breakfast cereal	Combination	Pre-sale consulting	Online configurator	T / Upfront p.
Customized prints for t-shirts	Appearance	Pre-sale consulting	Online configurator	T / Upfront p.
Customized dolls	Appearance	Pre-sale consulting	Online configurator	T / Upfront p.
Customized golf balls	Appearance	Pre-sale consulting	Online configurator	T / Upfront p.
Customized handbags	Appearance	Pre-sale consulting	Online configurator	T / Upfront p.
Customized jeans	Fabrication	Pre-sale consulting	Online configurator	T / Upfront p.
Customized shoes	Fabrication	Pre-sale consulting	Online configurator	T / Upfront p.
Customized shoes	Appearance	Pre-sale consulting	Online configurator	T / Upfront p.
Customized snowboard	Appearance	Pre-sale consulting	Online configurator	T / Upfront p.
Customized sofa covers	Appearance	Pre-sale consulting	Online configurator	T / Upfront p.
Customized wedding rings	Fabrication	Pre-sale consulting	Online configurator	T / Upfront p.
Customized wheel rims	Fabrication	Pre-sale consulting	Online configurator	T / Upfront p.

Key: F-C Int. – Firm-Customer Interaction, R – Relationship based, T – Transaction based, Upfront p. – Upfront purchase

6.4 Solutions

In the cluster of solutions, individualization is about extent of integration (marketing & operational). Marketing-integration is visible in all the 13 cases, where customers benefit from consolidated vendor accountability. Suppliers provide a vast range services from pre-sale consulting and financing to after sales services such as repair, maintenance and operation. Operational-integration is also evident in all cases. As in most cases the supplier promises a result (such as product availability), operational-integration as a value creating attribute is in his own best interests. Firm-customer interaction in all cases is relationship based and supported by the fact that there are no upfront purchases involved in solutions (see table 5).

Table 5: Data Analysis “Solutions”

Solutions	Type of individualization	Marketing-integration	Operational-integration	Firm-customer interaction
Aircraft engines mgmt.	Size & customized level of integration	Consultancy, repair & maintenance	Remote monitoring	R / Pay by the hour
Coffee machines mgmt.	Size & customized level of integration	Consultancy, repair & maintenance	Integrated service offerings	R / Monthly rental
Engineering machinery	Size & customized level of integration	Consultancy, repair & maintenance	Integrated service offerings	R / Fixed price contract
Facility mgmt.	Size & customized level of integration	Consultancy, operation & financing	Remote monitoring	R / Saving sharing
Green space mgmt.	Size & customized level of integration	Consultancy & Operation	Integrated service offerings	R / Monthly rental
Heating solutions	Size & customized level of integration	Consultancy & Operation	Remote monitoring	R / Monthly rental
Integrated Pest mgmt.	Size & customized level of integration	Consultancy & Operation	Remote monitoring	R / Monthly rental
Laundry solutions	Size & customized level of integration	Consultancy, repair & maintenance	Integrated service offerings	R / Monthly rental
Mass transport solutions	Size & customized level of integration	Consultancy, Operation & financing	System integration	R / Fixed price contract
Solar energy services	Size & customized level of integration	Consultancy, Operation & financing	Remote monitoring	R / Monthly rental
Construction Industry	Size & customized level of integration	Consultancy, Operation & financing	System integration	R / Fixed price contract
Tool fleet mgmt.	Size & customized level of integration	Consultancy & repair & maintenance	Integrated service offerings	R / Monthly rental
Warehouse trucks	Size & customized level of integration	Consultancy & repair & maintenance	Integrated service offerings	R / Short to mid-term contracts
Key: F-C Int. – Firm-Customer Interaction, R – Relationship based, T – Transaction based, mgmt. - management				

7 Results

We are now in a position to identify if the four clusters of hybrid value creation rely on the same value creating attributes or on different ones. This allows for a deeper understanding on which value creating attribute an organization should focus on. As this directly depends on the cluster of hybrid value creation they are active in. Table 6 provides an overview and compares the different value creating attributes in various clusters of hybrid value creation. In sum, it was found that there is no standard formula for success in hybrid value creation. Different attributes were crucial for the success of different clusters of hybrid value creation. This

means that when an organization pursues hybrid value creation it should first identify its offerings with one of the four clusters of hybrid value creation. Accordingly the organization should know which value creating to most focus on. Our findings, as summarized in table 6, can support organizations in this decision.

For instance, in *embedded products*, operational-integration is found to be the main value creating attribute. This means that, if an organization is active in the cluster of embedded products, it is imperative that it focuses on the value creating attribute 'operational integration'. Once this attribute is appropriately addressed, the organization should also look at getting the remaining value attributes in the right combination. One should note that onus to individualize, in embedded products, is passed forward to the customer and is dependent on operation-integration. For embedded product, our analysis showed that firm-customer interaction is directly related to the level of marketing-integration. If there is no marketing-integration (7 cases) or limited to just the online stores (5 cases) then the firm-customer interaction is transactional in nature. Only if the marketing-integration was repetitive in nature (1 case where they provided continuous monitoring services), the firm-customer interaction (and revenue model) is relational in nature.

In the cluster of *leasing & co.*, individualization is the main value creating attribute as it is about providing customers with flexibility. In our analysis, we found that the sole aim of the operational-integration, evident in only three cases, is geared towards providing the customer increased control over deciding how long they kept the product, in other words, increased flexibility in individualizing the contract. We found that firm-customer interaction depends on how often the product is used. If the offerings are used infrequently, the interaction is transactional in nature (e.g., hiring of art pieces or mobile toilets for a specific occasion). If the offerings are used regularly then it is relational in nature (e.g., white goods). This is supported by the by revenue models used in all the cases without exception. In contrast to leasing and co., our analysis showed that the main value creating attribute in the cluster *mass customization* is operational-integration. Even though providing an individualized product is the goal here, individualization is not the main value creating attribute. This can be explained by the fact that the market success of offerings in this cluster is directly depended on reaching two contradictory goals simultaneously, i.e. providing individualization with without sacrificing the cost advantages of mass production. These contradictory goals are mainly met through operation-integration in the shape of an online configurator which plays a dual role. First, it helps customers define preferences (pre-sale consultation, i.e. marketing integration) and second, it makes sure that customer preferences fall into a pre-defined solution space. Hence operational-integration is the heart beat of offerings in this cluster. In all the cases firm customer-interaction is transactional in nature and this is consistently supported by the revenue models used in all of them.

In the cluster of *solutions*, we found marketing-integration to be the main value creating attribute. The primary goal of solutions is to help customers focus on their

core competencies. In other words, it about freeing the customer from hassles not directly associated with their main function. This is provided to the customer by promising and delivering an agreed upon final result. In the process the customer benefits from vendor consolidation (i.e. marketing-integration) as the supplier takes over a wide range of functions such as consulting, repair and maintenance, and in some cases also the day to day operations. Once a firm gets its marketing-integration right, it should focus on operational-integration. We found that marketing-integration is more a cost saving attribute for the supplier. This is explainable as suppliers often promise a final result to their customers. Therefore, it is in the best interests of the supplier that various components interact seamlessly and increase cost saving opportunities. Firm-customer interaction in solutions is purely relational in nature and this supported by the revenue models used in all the cases.

Table 6 provides a summary of the main value creating attributes for each of the four identified clusters of hybrid value creation.

Table 6: Overview Value Creating Attributes

	Type of individualization	Type of Marketing-integration	Type of Operational-integration	Type of Firm-customer Interaction
<i>Embedded products</i>	Self-customizable SW or add on products or services	None (7); online stores (5); continuous monitoring services (1)	<u>Seamless integration of HW & SW aspects</u>	Mainly transactional; 1 was relational
<i>Leasing & Co.</i>	<u>Contract volume, i.e. size or duration</u>	Vendor consolidation through a single point of contact	None (10); evident and geared towards increasing customer flexibility (3)	Both relational and transactional are equally seen
<i>Mass Customization</i>	Performed on the final product	Pre-sale consulting	<u>Online configurator</u>	Purely transactional
<i>Solutions</i>	Providing desired extent of integration (marketing & operational)	<u>Consultancy, operation or repair & maintenance, and financing</u>	Mainly about making sure that service aspect is seamlessly integrated with the product aspect	Purely relational

8 Conclusion and Further Research

There is no standard formula for hybrid value creation. Four value creating attributes have been identified and their distinctive contributions for different

types of hybrid value creation have been empirically derived. As a result, the success of hybrid offerings can be increased using a two-step strategy: When implementing hybrid value creation, first, the type of hybrid value creation has to be determined. Second, depending on the corresponding cluster the key value creating attribute(s) need to be carefully designed.

As this paper provides an organizational perspective, what is required is follow-up research that provides a customer perspective on hybrid value creation. Some of the most important questions that need to be answered are what creates value in their eyes of the customer? How can value be measured? It is obvious that for competitive advantage, high value needs to be delivered to the customers. To understand this from a customer side further research should look at literature on perceived value as it is significantly related to customer behavior and willingness to pay (Anderson & Narus 1998).

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References

- Anderson JC, Narus, JA (1998) Business Marketing; Understand What Customers Value. *Harvard Business Review* 76 Issue 6 - Nov/Dec98, p53-65
- Auguste BG, Harmon EP, Pandit V (2006) The right service strategies for product companies. *The McKinsey Quarterly*(1):41–51.
- Brady T, Davies A, Gann D (2005b) Creating value by delivering integrated solutions. *International Journal of Project Management* 23(5):360–365.
- Davies A, Brady T, Hobday M (2007) Organizing for solutions: systems seller vs. systems integrator. *Industrial Marketing Management* 36(2):183–193.
- Eisenhardt KM (1989) Building theories from case study research. *Academy of Management Review* 14(4):532–550.
- Foote NW, Galbraith J, Hope Q, Miller D (2001) Making solutions the answer. *McKinsey Quarterly*(3):84–93.
- Grönroos C (2000) *Service management and marketing. A customer relationship management approach*. John Wiley & Sons Ltd., Chichester.
- Hart CW (1996) Made to order. *Marketing Management* 5(2):11–23.

- Hax AC, Wilde II DL (1999) The delta model: adaptive management for a changing world. *Sloan Management Review* 40(winter):11–28.
- Kotha S (1996) From mass production to mass customization: the case of the National Industrial Bicycle Company of Japan. *European Management Journal* 14(5):442–450.
- Krishnamurthy C, Johansson J, Schlissberg H (2003) Solution selling: is the pain worth the gain?
- Lepak DP, Smith KG, Taylor SM (2007) Value creation and value capture: a multilevel perspective. *Academy of Management Review* 32(1):180–194.
- Miles MB, Huberman AM (1994) *Qualitative data analysis: an expanded sourcebook*. Sage.
- Möslein KM, Kölling M (2007) Interaktive hybride Wertschöpfung als Innovationsstrategie. In: Proceedings of the BMBF Conference, 'Innovationsfähigkeit in einer modernen Arbeitswelt' [Innovative ability in a modern world of work], March 29-30 2007, Berlin.
- Möslein KM, Velamuri VK (2009) Hybrid value creation as innovation strategy. In: Fisch JH, Roß JM (Hrsg) *Fallstudien zum Innovationsmanagement. Methodengestützte Lösung von Problemen aus der Unternehmenspraxis*. Gabler, Wiesbaden.
- Oliva R, Kallenberg R (2003) Managing the transition from products to services. *International Journal of Service Industry Management* 14(2):160–172.
- Piller F, Moeslein K, Stotko CM (2004) Does mass customization pay? an economic approach to evaluate customer integration. *Product Planning and Control* 15(4):435–444.
- Sawhney M (2006) Goying beyond the product. defining, designing, and delivering customer solutions. In: *The service dominant logic of marketing: dialogue, debate and directions*. M.E. Sharpe, New York.
- Slywotzky A, Wise R (2003) Demand innovation: GM's OnStar case. *Strategy & Leadership* 31(4):17–22.
- Tanner JF (1996) Buyer perceptions of the purchase process and its effect on customer satisfaction. *Industrial Marketing Management* 25(2):125–133.
- Tukker A (2004) Eight Types of product-service system: eight ways to sustainability? Experiences from Suspronet. *Business Strategy and the Environment (John Wiley & Sons, Ltd and ERP Environment)* 13(4):246–260.

Velamuri VK, Neyer A, Möslein KM (2008) What influences the design of hybrid products? Lessons learned from the preventive health-care industry. In: Proceedings of the 15th International Product Development Management Conference, Hamburg.

Webster FE (1992) The changing role of marketing in the corporation. *The Journal of Marketing* 56(4):1–17.

Windahl C, Andersson P, Berggren C, Nehler C (2004) Manufacturing firms and integrated solutions: characteristics and implications. *European Journal of Innovation Management* 7(3):218–228.

Yin RK (2003) *Case study research. Design and methods*. Sage, Thousand Oaks.