

Toward a Differentiated Understanding of the Value-Creation Chain

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The conventional view of the value-creation chain suggests offering high-value propositions at the product level (in terms of benefits provided by elements of the product) to attain high-value perceptions at the customer level, which should ultimately result in high-value appropriation at the firm level (i.e. relationship, volume, pricing and financial success). This study challenges this view and provides a differentiated understanding of the value-creation chain. With a multi-industry sample of 339 companies and a sample of 626 customers to validate managerial assessments, the authors apply a configurational approach to identify whether and to what extent offering high-value propositions at the product level is necessary or sufficient for achieving superior value perceptions at the customer level and high-value appropriation at the firm level. Taking into account the company-internal and company-external environment of the value-creation chain, the study identifies seven value-creation chain constellations.

Introduction

For some time, practitioners and researchers have considered the creation of products that offer customers superior value propositions to be a necessary condition for achieving firm value (e.g. Blocker, 2011; Ngo and O’Cass, 2009; Payne and Holt, 2001). Companies therefore invest heavily in product-related elements such as product design, special product features, or supplementary services that are aimed at offering superior products (e.g. Blocker *et al.*, 2011). By making this investment at the product level, firms are following the commonly accepted belief in the value-

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creation chain that offering a superior value proposition at the product level (in terms of benefits provided by elements of the product) will translate into high-value perceptions at the customer level and subsequently into high-value appropriation at the firm level (Payne and Holt, 2001).

However, common business practice offers a mixed picture of whether the value-creation chain always holds true. While for some companies, such as Apple Inc. or Google, offering a superior value proposition at the product level seems to be associated with high-value perceptions at the customer level and high-value appropriation at the firm level (e.g. in terms of favorable financial or relationship success), for other companies a totally different pattern prevails. For example, independent experts stated that car models such as the Audi A2 or the Opel Insignia offered a superior value proposition at the product level based on the evaluation of, among others, performance criteria such as fuel consumption (e.g. Bremner, 2015; English, 2008). However, these models failed to attain significant value perceptions at the customer level, leading to relatively low value appropriation at the firm level, such as low financial success. In contrast, other firms seem to attain considerable value appropriation at the firm level without either offering a superior value proposition or achieving superior customer value perceptions (Fortune, 2014).

While the value and value-creation literature is unquestionably very rich (Kumar and Reinartz, 2016; Payne and Holt, 2001; Sánchez-Fernández and Iniesta-Bonillo, 2007; Smith and Colgate, 2007), prior literature does not consider the above-mentioned discrepancies in the value-creation chain among companies. In this respect, 'aligning the customer-perceived value with customer-generated value ... is a research challenge that needs careful and comprehensive attention' (Kumar and Reinartz, 2016, p. 4). Instead, studies on value creation seem to suggest that proposing value at the product level is linked to a favorable outcome for companies and that, to attain a high-value appropriation at the firm level, companies need a superior value proposition at the product level (e.g. Woodruff, 1997). Thus, the literature says little on the questions of whether and, if so, to what extent and under which circumstances offering superior value propositions at the product level is truly necessary for high-value appropriation at the firm level.

Two major reasons explain this gap in research. First, from a content perspective, prior studies typically either focus on selected activities to create value or offer a good understanding of selected relationships between two distinct levels of the value-creation chain (e.g. Blocker *et al.*, 2011; Bowman and Ambrosini, 2000; Ngo and O'Cass, 2009; O'Cass and Sok, 2015; Payne and Holt, 2001). Therefore, with some notable exceptions (e.g. O'Cass and Ngo, 2011; O'Cass and Sok, 2015; Sok and O'Cass, 2011), previous studies do not consider value at the product, customer and firm levels simultaneously, but investigate the complex phenomenon in a somewhat fragmented way (Flint, Woodruff and Gardial, 2002; Helkkula, Kelleher and Pihlstrom, 2012). Acknowledging this limitation, scholars call for more research that considers all levels of the value-creation chain (Kumar and Reinartz, 2016; Marketing Science Institute, 2014; Ngo and O'Cass, 2010; O'Cass and Sok, 2015).

Second, from a methodological perspective, scholars complain that many studies are conceptual in nature and call for further empirical studies that consider several stakeholders of the value-creation chain (Grönroos and Voima, 2013; O'Cass and Ngo, 2011). Empirical work on value

creation typically relies on analyses of dependence, such as regression analysis or structural equation modeling (Mizik and Jacobson, 2003; O’Cass and Ngo, 2011; O’Cass and Sok, 2013, 2015; Sok and O’Cass, 2011). These analyses deliver valuable insights on the average strength of relationships between selected variables across all companies under investigation. However, they do not sufficiently account for the potential inter-company heterogeneity in the strength of these relationships. Rather, the components of the value-creation chain should be considered as ‘multivariate profiles of various dimensions that fit together in various ways in different contexts’ (Wong, Wilkinson and Young, 2010, p. 721). Specifically, these analyses do not allow for examination of holistic patterns of key variables of the value-creation chain. Investigating ‘holistic patterns of multiple variables rather than isolated variables and their bivariate relations’ (Homburg, Workman and Jensen, 2002, p. 39) requires a taxonomic approach, which considers the variety of theoretically possible value-creation chain constellations and identifies the most commonly occurring specific value-creation chain archetypes (Ketchen *et al.*, 1997). As such, taxonomies play a major role in the theory development of many research areas (Biggemann and Buttle, 2012; Meyer, Tsui and Hinings, 1993; Wong, Wilkinson and Young, 2010). The value of this approach to research and theory building is that it allows the identification of types of relationships not possible with other methods.

Given the outlined research gap and related shortcomings, our study addresses the questions of (1) whether and, if so, to what extent, offering superior value propositions at the product level is indeed necessary to attain superior value perceptions at the customer level and high-value appropriation at the firm level, and (2) under what circumstances this is the case. For this purpose, we combine the discourse on the value-based view with key ideas of service-dominant logic (Vargo and Lusch 2004) and draw on configuration theory to develop a conceptual framework that captures the product, customer and firm levels of the value-creation chain as well as its company-internal and company-external environmental factors.

Employing this framework, a multi-industry sample of 339 companies, and a sample of 626 customers to validate managerial assessments, we applied a taxonomic approach using cluster analysis. Cluster analysis is frequently used to group objects empirically taking into account their similarity with respect to certain variables. In our study, we use cluster analysis to group companies on the basis of their similarity to variables of the value-creation chain. Through this analysis, we are able to account for the corresponding inter-company heterogeneity and reveal holistic value-creation patterns that commonly occur in business practice.

Our study makes three key contributions. First, our research identifies seven value-creation chain constellations that challenge conventional wisdom on the value-creation chain. These value-creation chain constellations reveal that, in some cases, high-value propositions at the product level are associated with high-value perceptions at the customer level – but not high-value appropriation at the firm level. Also, we find that, in some cases, a fairly high firm value appropriation does not require substantial value propositions at the product level or high-value perceptions at the customer level.

Second, our study reveals factors of the company-internal and company-external environment of the value-creation chain that determine the need to offer high-value propositions at the product level to attain high-value perceptions at the customer level and high-value appropriation at the firm level. For instance, in markets with high customer dynamics, companies often fail to appropriate the value they have created or attained at the product and customer levels. In contrast, in markets characterized by high commoditization, firms succeed in attaining a fairly high-value appropriation at the firm level without comprehensively offering high-value propositions at the product level. Revealing these factors contributes to the development of a differentiated understanding of the value-creation chain.

Third, our study provides managerial recommendations on how best to deal with the value-creation chain. For example, our results suggest that company-internal activities of the value-delivery system (i.e. support through communication, sales and pricing) help companies to attain superior value perceptions at the customer level and high-value appropriation at the firm level, despite offering low-quality value propositions at the product level.

Theoretical background

An expanded discourse on the value-creation chain

The concepts of value and value-creation are widely used in the literature and have been intensively debated (Vargo, Maglio and Akaka, 2008). To achieve a better understanding of these concepts, we draw on the value-based view (e.g. Woodruff, 1997), the service-dominant logic (Vargo and Lusch, 2004) and seminal papers on value creation (e.g. Bowman and Ambrosini, 2000; Kumar and Reinartz, 2016).

This literature considers value creation as a 'dual concept' of customer value creation and firm value appropriation encompassing three key components at three stakeholder levels making up the value-creation chain. These components and levels are (1) the value proposition by the firm to the customer at the product level, (2) the value perceptions at the customer level, and (3) the value appropriation at the firm level (Blocker *et al.*, 2011; O'Cass and Sok, 2013, 2015).

Importantly, the value-creation chain is distinct from the value chain as proposed by Porter (1998). The value chain is supplier-centric and refers to activities to manufacture and distribute value in the market. It stops when value is exchanged from the firm to the customer (value-in-exchange) at the product level and hence separates production by the firm from consumption by the customer (Bowman and Ambrosini, 2000; Gummesson, 2008). In contrast, drawing on service-dominant logic, the value-creation chain recognizes that the customer co-creates value in the act of using the product (value-in-use). Only at the product level can a firm make a value proposition to the customer, in the form of the firm's promise to the customer to offer something superior to the offerings of competitors (Skålén *et al.*, 2015). However, it is the customer who perceives and determines the value that s/he derives from this value proposition (Bowman and Ambrosini, 2000;

Vargo and Lusch, 2004). It is important to note that the notion value proposition may refer to the entire offer. In our study, however, we distinguish between value propositions at the product level (in terms of benefits provided by product-related elements) and the internal value-delivery system (in terms of benefits provided by non-product elements), which we discuss later.

Finally, we integrate the idea of value appropriation at the firm level to the value-creation chain: that is, to stay competitive in the market, a firm should 'extract some of that customer value in the form of profit, thereby creating value for the firm' (Kumar and Reinartz, 2016, p. 3; Mizik and Jacobson, 2003).

Following the logic of the value-based view (e.g. Woodruff, 1997), the literature suggests that only by creating superior customer value perceptions can a company attain superior performance and compete in hyper-competitive markets (Blocker *et al.*, 2011; O'Cass and Ngo, 2011; Payne and Frow, 2005). Ample conceptual and empirical support exists for the positive relationship between value propositions at the product level and value perceptions at the customer level (Blocker *et al.*, 2011; Zeithaml, 1988). Similarly, prior research provides evidence for the positive relationship between value perceptions at the customer level and value appropriation at the firm level (Leroi-Werelds *et al.*, 2014; Liu *et al.*, 2005). Taken together, these findings evoke the impression of automatism for these linkages.

However, value perceptions 'are not made in isolation; they occur within some context' (Anderson, Thomson and Wynstra, 2000, p. 309) and, according to service-dominant logic, the customer determines the values s/he obtains from a firm's value proposition (Vargo and Lusch, 2004). Therefore, some impediments obviously prevent firms from automatically appropriating some of the value they offer at the product level or attain at the customer level. This observation is in line with emphasis on the importance of carefully aligning the three components of the value-creation chain (Kumar and Reinartz, 2016). Relatively fragmented, some work indicates why a company may not readily appropriate firm value out of its value-creation efforts, alluding to environmental factors in either the company-internal or the company-external environment of the value-creation chain (Slater, 1997), on which we elaborate next.

First, the company-internal environment of the value-creation chain makes up a firm's internal value-delivery system (Anderson and Narus, 1998). For this category of constructs, we identified and selected generic marketing activities that apply to both business customers and consumers. Specifically, with pricing, communication and sales, it consists of key marketing activities that serve as indicators for the non-product-related marketing mix and provide important support for the value proposition at the product level (Boulding, Lee and Staelin., 1994; Woodruff, 1997). For example, low communication and sales support may prevent customers from fully grasping the true extent of a value proposition and thus lead to their perception of low value, despite a superior value proposition at the product level.

Second, literature alluding to the company-external environment of the value-creation chain refers to customer-, competitor- and industry-related impediments. With respect to customer-

related impediments, research shows that both familiarity with the purchase situation and customer dynamics can exert a substantial impact on customer value perceptions and firm performance (Flint, Woodruff and Gardial, 2002; Liu, Leach and Bernhardt, 2005). In terms of competitor-related impediments, the literature points to how competitor dynamics can hamper the value-creation chain by alienating customers and negatively affecting their buying behavior (Eggert, Ulaga and Schultz, 2006). Finally, studies point to product commoditization and the availability of alternative offerings as key industry-related barriers to a company's value-creation chain efforts (Rangan and Bowman, 1992; Reimann, Schilke and Thomas, 2010b).

In sum, even though the literature seems to suggest automatic links within the value-creation chain, several company-internal and company-external factors may inhibit this automatism. So far, no prior study has investigated several of these factors simultaneously to gain a more differentiated understanding of the entire value-creation chain. To address this shortcoming, we draw on configuration theory.

Configuration theory

Configuration theory has a long history in the study of organizations (Ketchen and Shook, 1996) and is frequently applied in marketing and management research (Ambrosini *et al.*, 2011; Bowman and Ambrosini, 2003; Friesl, 2012; Hughes, Hughes and Morgan, 2007). The theory supports the study of complex organizational phenomena through the investigation of coherent, holistic patterns of multiple variables rather than through selected variables and their bivariate relationships. Configurations refer to constellations of variables inside and outside the company that address a common topic and that are aligned as archetypes (Miller, 1996).

Transferred to our research context, configuration theory suggests that interdependencies between variables of the value-creation chain limit the set of possible combinations of these variables. Consequently, only a few of the theoretically conceivable combinations of the components of the value-creation chain are likely to be both viable and internally consistent and thus frequently observed in business practice. These combinations indicate strategic groups of the value-creation chain. With respect to the variables of the value-creation chain, configuration theory is directed toward finding commonly occurring clusters such as prototypical value-creation chain constellations. Specifically, these value-creation chain constellations help to identify the clusters for which offering a superior value proposition at the product level and attaining superior value perceptions at the customer level are necessary and sufficient to appropriate value at the firm level.

Conceptual framework

Procedure for selecting variables

Determining the number of variables used in the taxonomic procedure is a central step in conducting a cluster analysis (Rich, 1992). As we strive for a trade-off between conceptual breadth and parsimony in the number of input variables entering the cluster analysis (Ketchen and Shook, 1996; Meyer, Tsui and Hinings, 1993), we follow prior research and employ two types of variables (e.g. Wong, Wilkinson and Young, 2010).

We first identify and select important variables within each conceptual level of the value-creation chain and subsequently introduce these to the cluster algorithm as active cluster input variables. We then identify descriptive variables referring to the company-internal and company-external environment of the value-creation chain that do not enter the cluster procedures, but help to describe more fully and interpret the taxonomic results. Consistent with prior literature (Milligan, 1996), we accept some conceptual overlap and empirical correlation between the variables. Finally and importantly, the very nature of taxonomies is to aim to ensure a broad applicability for very different industries, thus certifying the external validity of findings. Therefore, our empirical approach relied on conceptually relatively broad cluster and descriptive variables. Finally, it is important to note that the unit of analysis of all variables in this study refers to the value-creation chain with respect to a specific product or service.

Variables of the value-creation chain as active cluster variables

Value propositions at the product level. Prior investigations distinguish between offering value propositions for the core product and for the augmented product (Day and Wensley, 1988; Ulaga and Eggert, 2006). We define 'value proposition for the core product' as the extent to which a company considers that its physical good or service outclasses competing offerings in terms of benefits provided by its basic functionality, primary performance, reliability, durability and consistency over time (Blocker, 2011; Liu, Leach and Bernhardt, 2005; Ulaga, 2003; Ulaga and Eggert, 2006).

Analogously, we define 'value proposition for the augmented product' as the extent to which a company considers that its physical good or service outclasses competing offerings in terms of benefits provided by elements that are beyond those provided by the core product (e.g. Blocker *et al.*, 2011; Payne and Holt, 2001). For example, these elements may include special product features, supplementary services and a brand that enriches a product in customers' minds (Blocker *et al.*, 2011; Matthyssens, Vandenbempt and Weyns, 2009; Ulaga, 2003; Ulaga and Eggert, 2006).

Value perceptions at the customer level. We investigate 'customer value perceptions' as 'judgments or assessments of what a customer perceives he or she has received from a seller in a specific purchase or use situation' (Flint, Woodruff and Gardial, 2002, p. 103). In line with service-dominant logic, value perceptions refer to the customer's evaluation and determination of the product's value proposition in comparison to competing offerings (Bharadwaj and Dong, 2014; Vargo and Lusch,

2004; Woodruff, 1997). While studies focusing on this construct rightly suggest a rich conceptualization (Holbrook, 2002; Sánchez-Fernández and Iniesta-Bonillo, 2007; Sheth, Newman and Gross, 1991), we needed a relatively parsimonious and aggregated conceptualization owing to our taxonomic approach, which requires focusing on a limited set of cluster variables to be able to identify meaningful clusters that are easy to interpret. The more parsimonious aggregated approach also allowed us to cover both B2B and B2C customer value perceptions across different industries and product categories.

Value appropriation at the firm level. Drawing on prior literature referring to value appropriation at the firm level (e.g. Bowman and Ambrosini, 2007; Porter, 1998), we examine four well-established variables: relationship; volume; pricing; and financial success (Leroi-Werelds *et al.*, 2014; Liu, Leach and Bernhardt, 2005; Reimann, Schilke and Thomas, 2010a). We define 'relationship success' as the extent to which the company establishes strong bonds between the product and its customers in terms of satisfaction and market position that outclass competing offers (O'Cass and Sok, 2013). 'Volume success' refers to the extent to which the company attains sales-related and market share-related goals for the product that outclass competing offers (Bowman and Ambrosini, 2007; Liu, Leach and Bernhardt, 2005; Reimann, Schilke and Thomas, 2010a). 'Pricing success' captures the extent to which the company's price level for the product is superior to competing offers in the respective product category (Bowman and Ambrosini, 2007; Tellis, 1986). Finally, 'financial success' is the extent to which a company achieves profit-related goals for the product that outperform competing offers (Porter, 1998; Reimann, Schilke and Thomas, 2010a).

Environmental factors of the value-creation chain as descriptive variables

Company-internal environment of the value-creation chain. Communication, sales and pricing are variables of the company-internal environment of value creation that indicate a firm's internal value-delivery system (Anderson and Narus, 1998; Skålén *et al.*, 2015). We define 'communication support' as the extent to which the firm's communication efforts underscore the product's value proposition by stressing, for example, its superior quality (Lawless and Fisher, 1990). 'Sales support' captures the extent to which the firm's sales force underscores the product's value proposition by highlighting, for example, the product's key benefits when interacting with customers (Terho *et al.*, 2012). Finally, 'pricing support' refers to the extent to which the firm's pricing system is geared toward ensuring a high price level, for example, by focusing on enforcing a premium price (O'Cass and Ngo, 2010; Tellis, 1986).

Company-external environment of the value-creation chain. We consider customer-, competitor- and industry-related variables to describe the company-external environment of the value-creation chain. First, we consider 'customer dynamics' (Blocker *et al.*, 2011; Flint, Woodruff and Gardial,

2002), or the extent to which customer needs and requirements frequently change. In addition we consider 'customer familiarity', or the extent of customer experience with regard to the purchase situation (Liu, Leach and Bernhardt, 2005).

Second, we investigate the impact of competitor dynamics, since prior literature on value creation has highlighted this variable's potential relevance (Blocker *et al.*, 2011; Sirmon, Hitt and Ireland, 2007; Slater, 1997). We define 'competitor dynamics' as the extent to which competitor behavior is intense and frequently changes (Jaworski and Kohli, 1993).

Third, we focus on two industry-related aspects: the extent of product commoditization and the availability of alternatives for the value proposition at the product level. We distinguish between 'commoditization of the core product' – the degree of similarity of the basic functionality of a value proposition within the specific product category – and 'commoditization of the augmented product', which is the degree of similarity of the augmented products within the specific product category (Reimann, Schilke and Thomas, 2010b). Furthermore, our study also considers the 'availability of alternatives', or the degree to which other sources of supply are available to customers in a specific industry (Porter, 1985; Slater, 1997).

Methodology

Data-collection procedure

To conduct a large-scale mail survey, we drew on data from a commercial provider, identifying an initial sample of 1719 firms from a broad range of industries. Since our unit of analysis refers to a company's value-creation chain with respect to a specific product or service, ensuring appropriate respondents with sufficient product- and customer-related knowledge was paramount. Hence, we called each firm of the initial sample to identify top managers with primary responsibility for a specific product or service (e.g. head of marketing, product or brand manager, general manager). We were successful in meeting this prerequisite in 1670 cases.

We then mailed our questionnaire together with a personalized letter to these managers. After three weeks, we started follow-up calls. To ensure the respondents' appropriateness, we asked participants to relate their answers to a typical product of their company that they were in charge of and to refer to their direct customers. To ensure respondents' competence in answering our survey, we included two survey items questioning how competent respondents felt to answer the questions and how deeply they were involved in the survey's topic (Kumar, Stern and Anderson, 1993). Reported low competence of respondents led to removal of 46 questionnaires, leaving 339 usable questionnaires, corresponding to a response rate of 20.3%. As respondents averaged 6.30 years of tenure in position and 10.38 years of tenure in firm, we consider our respondents to be highly knowledgeable about the survey topics (e.g. Schilke and Cook, 2015). Table 1 provides information on the respondents of the company sample. Using the common test of Armstrong and Overton (1977), non-response bias was assessed and ruled out by comparing early with late respondents.

Furthermore, we analyzed whether the respondent and non-respondent firms differed systematically in terms of size or industry and found no evidence for non-response bias.

[INSERT TABLE 1 NEAR HERE]

Collection of a validation sample

To alleviate concerns of informant bias (Bagozzi and Phillips, 1991) and common method bias (Podsakoff *et al.*, 2003), we evaluated the validity of managerial assessments of customer-related cluster variables on the basis of data from typical customers of the firms in our sample. For this purpose, we re-contacted the responding 339 firms and asked them for a list of typical customers. As an incentive for participation, we offered a report on aggregated customer feedback as well as management books. In total, 111 firms provided customer contact information, which corresponds to a response rate of 32.7%. Again, we found no evidence for non-response bias. We then conducted telephone interviews with these customers and asked them to assess their value perceptions as well as relationship and volume aspects with respect to the focal product of the respective firm. To reduce response bias, we assured customers of strictly confidential treatment of their information.¹ On average, we were successful in conducting eight interviews with customers in business-to-consumer (B2C) settings and four interviews with customers in business-to-business (B2B) settings. This effort resulted in a total of 626 customer interviews for 109 of the 111 previously contacted firms.

Subsequently, we averaged the customer responses for each firm (van Bruggen, Lilien and Kacker, 2002) and correlated them with managers' assessments of the focal cluster variables.² Results show high correlations between customer responses and managerial assessments for customer value perceptions (0.73; $p < 0.01$), relationship success (0.69; $p < 0.01$), and volume success (0.68; $p < 0.01$). Thus, managers' assessments of the customer-related cluster variables seem to reflect closely the respective customer responses, indicating that the managers in our sample were able to provide valid assessments of these customer-related clustering domains of the value-creation chain.

Measurement development and assessment

We designed our questionnaire after an extensive literature review and interviews with managers from different industries. The challenge of collecting sufficient data from respondents under severe time constraints led us to adapt many scales from prior literature to fit our research context and additionally to account for the limited availability of participants to answer our survey. Through careful design and pre-testing of the questionnaire by executives and scholars, we ensured the content validity of the measures in our study. Wherever possible, we employed reflective measures.

For these variables, reliability and convergent validity were assessed by a confirmatory factor analysis. Each construct shows a composite reliability of at least 0.70 (Bagozzi and Yi, 1988). Owing to sufficient psychometric properties on the construct level (e.g. Cronbach's alpha and average variance extracted), no previously identified item was removed after the measurement assessment stage. Appendix 1 provides further details on the construct measurement. Average variance extracted is higher than the squared correlations for any pair of two latent variables, supporting the discriminant validity of our reflective measures (Fornell and Larcker, 1981).

Taxonomic procedure

In line with prior literature (Viswanathan *et al.*, 2007), we followed a three-stage clustering approach. We first determined the number of clusters, then assigned the observations to clusters, and finally assessed the stability of the cluster assignments. We ran all analyses with SAS 9.1.

To determine the appropriate number of clusters, we used the hierarchical clustering algorithm (Ward, 1963) and combined it with the cubic clustering criterion (Sarle 1983) and the pseudo t^2 index (Duda and Hart, 1973), as these two measures are especially reliable for estimating the number of population clusters (Milligan and Cooper, 1985). We standardized the cluster variables on the basis of their range (Milligan and Hirtle, 2003) because Ward's algorithm is sensitive to scaling and outliers. In addition, consistent with Punj and Stewart (1983), we identified 15% of the observations as outliers and removed them from the data set. We ultimately found strong support for a seven-cluster solution, which was further confirmed during the clustering of 20 randomly selected subsamples, each containing two-thirds of the sample.

To assign observations to clusters, we used a hybrid approach that combines Ward's method with the K-means method (Punj and Stewart, 1983). Various other studies give evidence that this approach yields appropriate and powerful results for cluster analyses (Wong, Wilkinson and Young, 2010).

Robustness tests

To assess the robustness of the cluster assignment, we carried out several tests. First, using a well-accepted cross-validation procedure (Milligan and Cooper, 1987), we randomly split our sample into halves and applied the hybrid clustering procedure to each half. We then assigned each object in the second half to the nearest cluster centroid obtained from the first half. We obtained two cluster assignments for each object in the second half and compared their consistency using Rand's (1971) index, which is scaled between 0 and 1 (with 1 indicating perfect stability). Our cross-validation yields an acceptable Rand index of 0.8. Second, we draw on a sub-sample that includes all cases for which we had both company data and customer data ($n = 109$). Company data included managerial assessments of the value proposition for the core product and the augmented product as well as of pricing and financial success. Customer data encompassed customer assessments of value

perceptions, relationship success and volume success. Using this dyadic sub-sample, we applied our clustering approach for replication purposes. Findings indicate a seven-cluster solution that shows a pattern of results similar to that based on the overall sample ($n=339$), thus providing further evidence for the robustness of our clustering results and for using managerial assessments across all cluster variables.

Results

As the final step in our taxonomic procedure, we interpret the seven clusters using both cluster variables and descriptive variables. Table 2 provides statistical descriptions of the clusters by referring to each of the seven active cluster variables, the descriptive variables, which did not enter the analysis as active cluster variables, and the representation of each cluster in terms of industry and company size.

[INSERT TABLE 2 NEAR HERE]

Despite the risk of oversimplification, we translated statistical ranges into verbal descriptions and assigned a name to each cluster. Cluster names facilitate the discussion of the cluster analysis by stressing distinct characteristics of the respective value-creation chain constellations and therefore aiding comparison. Table 3 provides cluster profiles with the verbal description of our clusters.

[INSERT TABLE 3 NEAR HERE]

The members of Cluster 1 perform outstandingly well with respect to all three levels of the value-creation chain. Very high scores for the value proposition for the core product and for the augmented product translate into exceptional value perceptions at the customer level, which in turn yield the highest scores in all four facets of value appropriation at the firm level. To express the prosperity of this value-creation chain constellation, we label it 'Overall Champions'. Cluster members show strongest support through communication, price, and sales activities for the value-delivery system. Overall Champions face relatively favorable company-external conditions with low levels of commoditization and competitor dynamics. However, customers are less familiar with the purchase situation, and their needs often change. Companies in this cluster are especially present within the electronics, consumer durables, and pharmaceutical and healthcare industries.

Cluster 2 is characterized by a very high score for the value proposition for the core product and a medium score for the augmented product. Interestingly, even though value perceptions at the customer level are only moderate, companies are able to translate the value proposition at the product level into high-value appropriation at the firm level. Notably, the scores of the different facets of value appropriation at the firm level diverge widely. While pricing success scores high and financial success very high, companies attain only medium levels of relationship and volume success. Owing to this cluster's distinctive characteristics – that is, the direct translation of an exceptionally high-value proposition for the core product into high pricing success – we label it 'Core to Price Converters'. High levels of sales and communication support facilitate this realization of the value-creation chain. An adequate pricing system and the very low availability of alternatives and low commoditization in the respective markets seem to contribute to supporting relatively high prices. The value-creation chain constellation of Core to Price Converters is strongly present in the machinery, high-tech and chemical industries.

The value-creation chain constellation of Cluster 3 manifests in an extremely high-value proposition for the augmented product and a medium value proposition for the core product, in high-value perceptions at the customer level, and in a relatively high-value appropriation at the firm level. With high to very high levels of relationship and volume success and only medium pricing and financial success, this cluster exhibits a pattern for value appropriation at the firm level directly opposite that of Cluster 2. Because of the high conversion rate of a superior value proposition for the augmented product into high volume success, we label this cluster 'Value for Volume Traders'. While pricing support plays a minor role, intense communication and sales activities in the value-delivery system of firms seem to contribute to overcoming high customer dynamics and customer unfamiliarity with the purchase situation in less commoditized markets. Members of this cluster typically operate in the financial services and pharmaceutical/healthcare industries.

Companies in Cluster 4 do not manage to convert the beneficial situation of high to very high scores of value propositions and customer value perceptions into high-value appropriation at the firm level. Rather, these companies exhibit low performance in providing value at the firm level. In allusion to Greek mythology, where Sisyphus's endless efforts are unsuccessful, we name this cluster 'Sisyphean Fighters'. Firms in this cluster intensively support the value-delivery system through sales and communication support, but meet very hostile market conditions in terms of high customer and competitor dynamics. A low level of commoditization, primarily in the building and construction and the basic and raw materials industries, seems to force Sisyphean Fighters to comply with the industry standard to differentiate the value proposition.

Scores of low-quality value proposition at the product level and mediocre value perceptions at the customer level, along with the lowest rankings for each facet of value appropriation at the firm level, characterize members of Cluster 5. By using sales support activities, however, companies can potentially translate the low-quality value proposition at the product level into reasonable value perceptions at the customer level. Members of this cluster face extremely hostile market conditions with a high level of commoditization, intricate customer and competitor dynamics, and high availability of alternatives. While such a company-external environment of the value-creation chain

actually requires strong company-internal support, companies in this cluster pursue a half-hearted strategy of supporting value-creation chain efforts. We therefore label companies in this cluster 'Half-hearted Losers', and find them to be most prevalent in the financial services as well as basic and raw materials industries.

Cluster 6 is characterized by a strong focus on the value proposition for the augmented product that successfully translates into high-value perceptions at the customer level and corresponding volume success, which seem to drive very high financial success at the firm level. Companies in this cluster face severe commoditization of the core product, whereas commoditization of the augmented product is pretty low. Even though achieving unique points of differentiation in such market conditions is difficult, cluster members seem to be especially creative, quick and nimble. Internally supported by communication and sales, they manage to outperform competitors with a high-value proposition for the augmented product. Accordingly, we call this cluster 'Nimble Enrichers'. Firms in this cluster operate primarily in the chemical industry.

Despite having the lowest scores for value propositions at the product and value perceptions customer levels, companies in Cluster 7 are astonishingly successful in terms of volume and financial success. The market of this cluster has the highest scores of commoditization. Given very high competitor dynamics and the resulting risk of swift imitation, deciding not to offer an outstanding value proposition at the product level seems to be a very efficient strategy. The highest availability of alternatives as well as high customer familiarity with the purchase situation may to some extent offset the importance of customer value perceptions and therefore contribute to the value appropriation at the firm level of cluster members. Driven by volume, companies achieve high financial success, which is characteristic for commodity markets. Because of their lean route to firm value, we label companies in this cluster 'Efficient Maximizers'. They are especially common in the basic and raw materials as well as automotive industries.

Discussion

The conventional view on the value-creation chain seems to suggest an automatism between the linkages of value propositions at the product level, value perceptions at the customer level, and value appropriation at the firm level. However, the service-dominant logic (Vargo and Lusch, 2004) and anecdotal evidence from business practice show that this premise does not hold true. On the basis of configuration theory and drawing on a multi-industry sample of 339 companies and a sample of 626 customers to validate managerial assessments, we employed a taxonomic approach to describe value-creation chain constellations that occur in business practice. Company-internal and company-external environmental factors enriched our cluster descriptions and enabled us to provide a holistic picture of the seven identified clusters.

Specifically, even though the members of Cluster 1, Overall Champions, support the impression of automatism between the individual levels of the value-creation chain, our results challenge this view, since our taxonomy reveals significant variation in the components of the value-

creation chain. For example, the Efficient Maximizers (Cluster 7) demonstrate that companies can attain high-value appropriation at the firm level without offering superior value propositions at the product level or benefitting from superior value perceptions at the customer level. For example, these companies may have purposefully kept their value proposition at the product level at a relatively low level to be able to reach a relatively low price point. In contrast, Sisyphian Fighters (Cluster 4) fail to transfer superior value propositions and customer value perceptions to high-value appropriation at the firm level. Hence, our results suggest the need for a differentiated view of the value-creation chain.

Offering value propositions at the product level

In line with prior literature (e.g. Blocker *et al.*, 2011; Liu, Leach and Bernhardt, 2005; Ulaga and Eggert, 2006), we find that offering value propositions at the product level requires companies to make superior effort than competitors with respect to the core product or the augmented product (Cluster 5 is a negative example) (Bharadwaj and Dong, 2014). However, the extent of investment at the product level seems to depend largely on the specific company-external environment of the value-creation chain – primarily on the degree of product commoditization (Reimann, Schilke and Thomas, 2010b). Companies of Clusters 1–4 operate in environments with low commoditization of the core product and invest in value propositions at this product level. In contrast, companies facing a high degree of commoditization – Clusters 5–7 – demonstrate the opposite: that is, not investing in differentiation of the core product seems reasonable because, in these cases, the core product offers limited room for differentiation (Narayandas and Rangan, 2004). Notably, investments in value propositions at the augmented product level are independent from the degree of commoditization.

Attaining value perceptions at the customer level

Our results confirm existing knowledge that superior value propositions at the product level drive superior value perceptions at the customer level (see Clusters 1–4) (e.g. Blocker *et al.*, 2011; O’Cass and Ngo, 2013; Zeithaml, 1988). However, our results advance this understanding in three respects. First, our results show that proposing an exceptional core product seems to be neither necessary (see Cluster 6) nor sufficient (see Cluster 2) for attaining superior value perceptions at the customer level. Rather, our results suggest that superior value propositions in the augmented product are more important for attaining high-value perceptions at the customer level than providing superior value propositions within the core product (Clusters 3, 4, 6; Cannon and Homburg, 2001; Doney and Cannon, 1997; Ulaga and Eggert, 2006).

Second, attaining superior value perceptions at the customer level by offering superior value propositions for the augmented product seems to be particularly important in environments with high customer dynamics (see Clusters 1, 3, 4) and highly commoditized markets (see Cluster 6),

where superior value propositions for the core product are less important (Blocker *et al.*, 2011; Narayandas and Rangan, 2004; Reimann, Schilke and Thomas, 2010a). This claim holds especially when the company-internal environment of the value-delivery system supports the value proposition efforts at the product level to fight successfully against high price sensitivity in commoditized industries (Reimann, Schilke and Thomas, 2010b). In addition, Clusters 3 and 4 confirm the finding that, with increasing customer dynamics, 'conventional value drivers may have significantly lower effects upon value perceptions' at the customer level (Blocker *et al.*, 2011, p. 221).

Finally, in contrast to conventional wisdom, superior value propositions at the product level are not a prerequisite to attaining some value perceptions at the customer level. As Cluster 5 reveals, attaining moderate value perceptions at the customer level seems to be possible merely on the basis of company-internal support activities of the value-creation chain. In this regard, we support research findings that non-product marketing efforts such as communication and sales support activities are also suitable for increasing value perceptions at the customer level (Boulding, Lee and Staelin., 1994).

Attaining value appropriation at the firm level

Although the descriptions of our clusters partially confirm the view that high-value perceptions at the customer level generally lead to high-value appropriation at the firm level (see Clusters 1, 2, 3) (e.g. Blocker *et al.*, 2011; Leroi-Werelds *et al.*, 2014; Liu, Leach and Bernhardt, 2005), a more fine-grained investigation of this relationship seems to be useful. In this attempt, one needs to consider the four facets of firm value appropriation and environmental factors of the value-creation chain.

Notably, high-value perceptions at the customer level are not a prerequisite for superior value appropriation at the firm level. Specifically, an important managerial lever to force the conversion of moderate value perceptions at the customer level into high-value appropriation at the firm level is the establishment of an appropriate value-delivery system through communication, pricing and sales support, as employed by firms in Cluster 2, which attains high pricing success. Furthermore, firm profitability is possible even without high-value perceptions at the customer level (see Cluster 7). As the highly profitable firms of Clusters 6 and 7 operate in commodity markets, our results counter-argue the statement that 'increased commoditization will lead to lower profitability of firms' (Reimann, Schilke and Thomas, 2010b, p. 188).

However, some firms cannot capture value appropriation at the firm level, despite attaining high-value perceptions at the customer level. High competitor and customer dynamics can hamper the conversion of superior value perceptions at the customer level into high firm value (see Cluster 4). Similarly, as Clusters 4 and 5 demonstrate, a high availability of alternatives might impede the attainment of value appropriation at the firm level, despite high or moderate customer value perceptions.

Limitations and future research directions

Employing a configurational approach, our study strives to identify value-creation chain constellations that apply to a great variety of B2B and B2C industries. Owing to our taxonomic approach, which requires focusing on a limited set of cluster variables to allow us to identify meaningful clusters that are easy to interpret, we needed to rely on a relatively parsimonious and aggregated conceptualization of value to cover both B2B and B2C customer value perceptions across different industries and product categories. This approach naturally goes along with items that might sound relatively similar to each other, as each of them needs to cover the topic under investigation at an aggregate level instead of focusing on many diverse aspects. In a similar vein, we endeavored to capture a broad range of marketing activities by identifying and selecting generic marketing activities that apply to both types of customer groups. Future studies may use our work as a starting point and employ, for example, a multidimensional understanding of value (e.g. Carlson *et al.*, 2015; Sánchez-Fernández and Iniesta-Bonillo, 2007; Sheth, Newman and Gross, 1991). Another limitation results from the previous point. Although we based our item-generation process on prior literature, managerial assessments and a pre-test, the content of some items does not cover distinct components. Also, not all reflectively measured constructs met the suggested thresholds. Hence, future research should pay particular attention to these measurement issues. Further, while we relied on an exploratory approach to identify prototypical value-creation chain constellations, future research may test hypotheses derived from our cluster results. Finally, while we emphasize that in the value-creation literature our work belongs in the small stream of studies that collect and employ dyadic data (for a notable exception, see O’Cass and Sok, 2013), we acknowledge that customers were recruited by asking managers for contact details. However, in line with other research that used a dyadic data collection approach, we consider this approach ‘to be the only feasible way of undertaking the research’ (White and Johnson, 2001, p. 206) owing to the cross-sectional setting of our study.

Implications for management

Our study has important implications for managerial practice. On a general note, our taxonomy provides managers with a framework for systematically thinking about their value-creation chain constellations. Our findings offer insights into which value-creation chain constellations are beneficial in specific company-internal and company-external environments. Hence, managers may first determine which facets of value appropriation at the firm level they want to target and then align the value-creation chain strategy with the respective company-internal and company-external environments. We provide three key findings that might help managers meet the challenge of designing and implementing a value-creation chain strategy for their specific business context.

First, superior value propositions at the product level are not a prerequisite for success in markets. For example, our results suggest that despite offering low-quality value propositions in the

core product, companies can attain superior value perceptions at the customer and firm levels through pricing, advertising and sales support. Our second key finding is that achieving high-value appropriation at the firm level is possible in many industries and product environments. Offering superior value propositions in the augmented product, for example, can help companies cope with frequent changes in customer needs. Importantly, however, providing value propositions at the product level or attaining customer value perceptions is not a prerequisite for high firm value appropriation in highly commoditized markets. Finally, company-internal support through sales, pricing and communication activities should complement value-creation chain efforts to increase chances of attaining high-value appropriation at the firm level. Company-internal support of the value-delivery system might be especially useful when in the company-external environment the core product and customer and competitor dynamics are moderately high.

¹We are aware that the managers could have provided contact data from customers who particularly cherish the value propositions of the firm and are especially satisfied. However, we are confident that asking managers to provide contact information for typical customers and promising a report about customer feedback, in which managers were highly interested, led managers generally to deliver contact information of representative customers.

²Importantly, both customers and managers may have been subject to a positive built-in bias, especially in terms of customer value perceptions and satisfaction. Therefore, we calculated the means of the customers' responses related to value perceptions (4.77) and satisfaction (which is a part of relationship success; 5.23) as well as the managers' responses related to value perceptions (4.50) and satisfaction (4.74), all measured on a seven-point scale. Overall, these results indicate no considerable positive built-in bias in this regard. Moreover, the remaining slight positive built-in bias is unlikely seriously to affect our study's findings. Customer data are used primarily for validation purposes, either for dependence analyses, which are relatively robust against such biases as they focus on the slope of a relationship between variables and not intercept, or for interdependence analyses, thereby focusing on general patterns of values across all cluster variables and clusters.

Appendix 1. Scale items for construct measurement

Construct	Items	CR/ α	IR	AVE
<i>Value propositions at the product level</i>				
Value proposition for the core product ^a (inspired by Liu, Leach and Bernhardt 2005; Ulaga and Eggert 2006)				
	The core product (i.e. the product's fundamental quality, exemplified) offers value to customers, which considerably exceeds competitive products.	–	–	–
Value proposition for the augmented product ^a (inspired by Liu, Leach and Bernhardt 2005; Ulaga and Eggert 2006)				

The augmented product (i.e. the additional product elements, examples^d) offers value to customers, which considerably exceeds competitive products. – – –

Value perceptions at the customer level

Customer value perceptions^a (inspired by Anderson, Thomson and Wynstra 2000; Eggert, Ulaga and Schultz 2006; Zeithaml 1988)

■ To what extent do you agree with the following statements regarding your customers' perceptions of your product offer compared to alternative offers in this product category?	0.91/0.91		
Our customers ...			
... view this product as providing a significantly higher value.		0.75	
... think that this product offers a considerably higher value.		0.79	
... are aware of the superior value of this product.		0.80	0.76

Value appropriation at the firm level

Relationship success^b (inspired by Reimann, Schilke and Thomas 2010a)

How do you rate the product compared to alternative offers in this product category in terms of:	–		
customer satisfaction?		0.41	
establishing a strong market position?		0.70	0.56

Volume success^b (inspired by Reimann, Schilke and Thomas 2010a; Wagner, Eggert and Lindemann 2010)

How do you rate the product compared to alternative offers in this product category in terms of:	–		
attaining sales volume-related goals?		0.67	
attaining market share-related goals?		0.88	0.70

Pricing success^b (inspired by Bowman and Narayandas 2004; Palmatier, Scheer and Steenkamp 2007)

How do you rate the product compared to alternative offers in this product category in terms of:	–		
enforcing the planned price level?			
enforcing a premium price?			

Financial success^b (inspired by Bowman and Narayandas 2004; Palmatier, Scheer and Steenkamp 2007)

How do you rate the product compared to alternative offers in this product category in terms of:			
achieving profit-related goals?			
achieving above market-level profits?			
<i>Company-internal environment of the value-creation chain</i>			
Communication support ^a (inspired by Palmatier, Scheer and Steenkamp 2007)			
Our communication (advertising) activities	0.81/0.81		
... emphasize the special quality of the product.		0.58	
... are geared towards communicating the product's value.		0.65	
... express the benefits the product will provide to the customer.	0.54		0.58
Sales support ^a (inspired by Terho et al. 2012)			
Our sales force activities	0.74 /0.75		
...focus on the goal of differentiating our products from competition.		0.71	0.50
...focus on communicating the product's value and benefits.		0.54	
...are tailored to customers (or customer segments).		0.30	
Pricing support ^a (inspired by Homburg, Jensen and Hahn 2012)			
Our pricing system			— ^c
...is focused toward enforcing a premium price.			
...prioritizes margins over sales volume.			
<i>Company-external environment of the value-creation chain</i>			
Extent of commoditization of the core product ^a (inspired by Reimann, Schilke and Thomas 2010b)			
The core products within this product category	0.89 /0.89		
... are very similar.		0.50	
... hardly differ from each other.		0.69	
... are basically alike.		0.70	0.67
... all fulfill customer needs and expectations to a similar extent.		0.78	
Extent of commoditization of the augmented product ^a (new scale)			
The augmented products within this product category	0.89 /0.89		

	... are very similar.		0.53	
	... hardly differ from each other.		0.64	
	... are basically alike.		0.70	
	... all fulfill customer needs and expectations to a similar extent.		0.81	0.68
Availability of alternatives ^a (new scale)				
	Our customers also consider many other suppliers for this product.	– ^c	0.58	0.47
	Other suppliers can provide almost the same value that we offer.		0.34	
Competitor dynamics ^a (inspired by Homburg, Jensen and Hahn 2012)				
	Competitors react very quickly in this market.	– ^c	0.79	
	Competitive dynamics is very intense.		0.39	0.59
Customer dynamics ^a (inspired by Blocker et al. 2011)				
	Customer needs and requirements concerning the core product change frequently in this market.	– ^c	0.54	
	Customer needs and requirements concerning the augmented product change frequently in this market.		0.63	0.58
Customer familiarity with the purchase situation ^e (inspired by Anderson, Chu and Weitz, 1987)				
	The purchase situation of our customers can typically be described as ...	– ^c		
	... largely new (Examples) ^d			
	... not completely new (Examples) ^d			
	... very familiar (Examples) ^d			

^aSeven-point rating scale with 'strongly disagree' and 'strongly agree' as anchors.

^bSeven-point rating scale with 'clearly worse' and 'clearly better' as anchors.

^cBecause this construct was measured with one or two items, composite reliability and coefficient alpha were not computed.

^dFor illustration purposes, examples were given in the questionnaire.

^eConstant sum scale with 100 points was used.

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Table 1. Sample composition

A. Industries	%	C. Annual revenues of the firm	%
Pharmaceutical and healthcare	13	< \$25 million	12
Chemicals	5	\$25–49 million	17
Machinery and high tech	12	\$50–99 million	17
Consumer products	15	\$100–999 million	29
Financial services	7	> \$1,000 million	17
Basic and raw materials/Utilities	14	Information missing	8
Electronics	10		
Building and construction/Metal	15		
Automotive (incl. Supply)	9		
B. Position of respondents	%	D. No. of employees in firm	
Head of Marketing	42	< 200	8
General Manager/Director	20	200–499	40
Head of Sales	19	500–999	11
Head of Product Management	10	1,000–10,000	29
Head of Marketing Communication	5	> 10,000	11
Other	4	Information missing	1

Table 2. Statistical cluster description

Cluster	1	2	3	4	5	6	7
% of sample represented by cluster	15	16	11	21	14	13	10
B2B share of cluster members (%)=	60	73	56	68	55	66	68
<i>Value propositions at the product level</i>							
Value proposition for the core product	5.1 ^e	4.9 ^{d,e}	4.2 ^c	4.4 ^{c,d}	2.6 ^b	1.8 ^a	1.6 ^a
Value proposition for the augmented product	5.6 ^{e,f}	4.6 ^c	6.0 ^f	5.2 ^{d,e}	3.5 ^b	4.8 ^{c,d}	1.9 ^a
<i>Value perceptions at the customer level</i>							
Customer value perceptions	5.7 ^d	4.1 ^b	5.0 ^c	5.1 ^c	3.8 ^b	5.1 ^c	2.5 ^a
<i>Value appropriation at the firm level</i>							
Relationship success	5.9 ^d	4.6 ^c	5.7 ^d	4.2 ^b	3.6 ^a	4.7 ^c	4.3 ^b
Volume success	6.0 ^e	4.3 ^c	5.8 ^e	3.9 ^b	3.5 ^a	4.9 ^d	4.7 ^d
Pricing success	5.9 ^e	5.3 ^d	4.6 ^c	4.1 ^b	3.8 ^a	4.7 ^c	4.6 ^c
Financial success	5.8 ^f	4.9 ^e	4.4 ^c	4.1 ^b	3.4 ^a	4.8 ^{d,e}	4.5 ^{c,d}
<i>Industry (descriptive) (%)</i>							
Pharmaceutical/Healthcare	22	11	25	11	9	14	8
Chemicals	7	22	7	21	14	22	7
Machinery/High tech	3	34	14	20	6	12	11
Consumer products	21	16	12	16	14	14	7
Financial services	10	5	25	25	25	5	5
Basic and raw materials/Utilities	7	15	0	30	23	10	15
Electronics	30	10	17	17	10	13	3
Building	14	9	2	33	14	16	12
Automotive	15	18	4	18	15	15	15
<i>Number of employees (descriptive) (%)</i>							
< 200	14	14	9	18	23	4	18
200–499	15	15	12	26	14	9	9
500–999	9	15	3	25	25	16	6

1,000–10,000	17	19	10	17	6	20	12
> 10,000	19	10	16	16	19	14	6
<i>Company-internal environment of the value-creation chain (descriptive)</i>							
Communication support	6.2 ^b	5.9 ^b	6.1 ^b	5.9 ^b	5.0 ^a	5.8 ^b	4.8 ^a
Sales support	5.6 ^c	5.3 ^{b,c}	5.6 ^c	5.6 ^c	4.9 ^{a,b}	5.3 ^{b,c}	4.6 ^a
Pricing support	5.2 ^c	4.8 ^{b,c}	4.1 ^a	4.4 ^{a,b}	4.4 ^{a,b}	4.8 ^{b,c}	4.4 ^{a,b}
<i>Company-external environment of the value-creation chain (descriptive)</i>							
Commoditization core product =	4.5 ^a	4.4 ^a	4.9 ^{a,b}	4.8 ^a	5.5 ^{b,c}	5.6 ^c	5.8 ^c
Commoditization augmented product	3.4 ^a	3.5 ^a	3.3 ^a	4.0 ^{a,b}	4.4 ^b	3.8 ^a	5.4 ^c
Availability of alternatives	4.4 ^a	4.7 ^{a,b}	5.1 ^{b,c}	5.2 ^{b,c}	5.9 ^d	5.7 ^{c,d}	6.2 ^d
Competitor dynamics	4.1 ^a	4.7 ^{b,c}	4.3 ^{a,b}	4.7 ^{b,c}	5.0 ^c	4.6 ^{b,c}	5.2 ^c
Customer dynamics	3.8 ^b	3.9 ^b	4.1 ^b	4.2 ^b	4.0 ^b	3.3 ^a	3.2 ^a
Customer familiarity with purchase situation	2.2 ^{a,b}	2.3 ^{a,b}	2.1 ^a	2.3 ^{a,b}	2.2 ^{a,b}	2.5 ^{b,c}	2.6 ^c

Reported values are mean values unless indicated otherwise. In each row, cluster means that have the same superscript are not significantly different ($p < 0.05$) on the basis of Duncan and Waller's multiple-range test. Means in the highest brackets are assigned ^a, means in the next lower bracket ^b and so on.

Table 3: Cluster profiles

Cluster	1	2	3	4	5	6	7
Cluster name	Overall Champions	Core to Price Converters	Value for Volume Traders	Sisyphus Fighters	Half-hearted Losers	Nimble Enrichers	Efficient Maximizers
Industries with strong cluster presence in	Electronics, CPG, Pharma	Machinery, High tech, Chemicals	Financial services, Pharma	Building, Basic and raw materials	Financial services, Basic and raw Materials	Chemicals	Basic and raw materials, Automotive
<i>Value propositions at the product level (active)</i>							

<i>cluster variable)</i>							
Value proposition core product	Very high	High–v. High	Medium	Medium–high	Low	Very low	Very low
Value proposition augmented product	Very high–ext. High	Medium	Extremely high	High–very high	Low	Medium–high	Very low
<i>Value perceptions at the customer level (active cluster variable)</i>							
Customer value perceptions	Very high	Medium	High	High	Medium	High	Low
<i>Value appropriation at the firm level (active cluster variable)</i>							
Relationship success	High	Medium	High	Low	Very low	Medium	Low
Volume success	Very high	Medium	Very high	Low	Very low	High	High
Pricing success	Very high	High	Medium	Low	Very low	Medium	Medium
Financial success	Extremely high	Very high	Medium	Low	Very low	High–v. High	Medium–high
<i>Company-internal environment of the value-creation chain</i>							

<i>(descriptive cluster variables)</i>							
Communication support	High	High	High	High	Low	High	Low
Sales support	High	Medium–high	High	High	Low–medium	Medium–high	Low
Pricing support	High	Medium–high	Low	Low–medium	Low–medium	Medium–high	Low–medium
<i>Company-external environment of the value-creation chain (descriptive cluster variables)</i>							
Commoditization core product	Low	Low	Low–medium	Low	Med.–high	High	High
Commoditization augmented product	Low	Low	Low	Low–medium	Medium	Low	High
Availability of alternatives	Very low	Very low–low	Low–medium	Low–medium	High	Medium–high	High
Competitor dynamics	Low	Medium–high	Low–medium	Med–high	High	Medium–high	High
Customer dynamics	High	High	High	High	High	Low	Low
Customer familiarity with purchase situation	Low–medium	Low–medium	Low	Low–medium	Low–medium	Medium–high	High



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