Effective configurations of value creation and capture capabilities: Extending Treacy and Wiersema's value disciplines

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ABSTRACT

This article theoretically elaborates and empirically investigates the alignment of the value creation and capture capabilities of Treacy and Wiersema's (1993, 1995) typology of three strategies for superior customer value (product leadership, operational excellence, and customer intimacy). Drawing on configuration theory, the current study develops three propositions that predict how each strategy in Treacy and Wiersema's typology corresponds to a particular mix of value creation and capture capabilities, which lead to competitive advantage and success in the marketplace. Using fuzzy set qualitative comparative analysis, data from a multi-industry sample of 110 R&D managers and 242 customers serve to empirically identify the operating models of the three conceptually derived strategies and their customer value performance. The results confirm the three strategies and indicate that each exhibits a unique combination of value creation capabilities and a carefully aligned set of value capture capabilities. Although the three strategies demand clear trade-offs in the value creation domain, those trade-offs do not exist for value capture.

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1. Introduction

More than two decades ago, Treacy and Wiersema (1993) published a seminal article on the value disciplines of market leaders and identified three beneficial strategies with high face validity: product leadership, operational excellence, and customer intimacy. These strategies allow firms to gain leadership positions in their industries, because the strategies focus business operations and create competitive advantages through customer value (Treacy & Wiersema, 1993). Each strategy offers unique value to customers: Product leadership provides the most advanced technological solution, operational excellence ensures adequate solutions at the lowest cost, and customer intimacy delivers the most customized solution (Treacy & Wiersema, 1995).

Despite the widespread dissemination of this typology in business practice and clear theoretical contributions in terms of outlining how firms can achieve strategic fit with their target markets and customers, no existing research elaborates how to align the different elements that constitute the operating models of each strategy. How should firms select and combine relevant capabilities to create and capture value—for example, exploit existing technologies and build strong ties with

customers simultaneously, or explore new technologies and focus on new customer segments? Even as strategic management literature increasingly embraces and incorporates this typology in various quantitative approaches (e.g. Homburg & Bucerius, 2006; Shinkle, Kriauciunas, & Hundley, 2013; Thornhill & White, 2007), no studies provide theoretical elaborations or explicit empirical tests.

In contrast with other typologies (e.g. Miles & Snow, 1978; Porter, 1980), Treacy and Wiersema (1993, 1995) use a strategic marketing lens and focus on customer value. The contribution of their work stems from the emphasis on specific pathways that market leaders follow to provide superior value for their customers and the importance of value creation and capture capabilities for achieving competitive advantage. Some empirical research using a similar approach simultaneously models value creation and capture mechanisms to explain why some firms are better at creating customer value and sustainable success than others (e.g. Becker & Lillemark, 2006; Mizik & Jacobson, 2003; Srinivasan, Lilien, & Sridhar, 2011). However, such studies are limited to marketing domains and do not link their findings to Treacy and Wiersema's typology. Thus, this empirical strand has persisted without a broader theoretical framework, relying instead on basic R&D and marketing expenditures as proxies for value creation and capture capabilities. In one exception, Fang, Palmatier, and Grewal (2011) capture types of investments in resources by distinguishing their depth and breadth.

Against this backdrop, the current study seeks to investigate the three success strategies that Treacy and Wiersema detail in their

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typology, with regard to how firms should align their value creation and capture capabilities to become market leaders and maximize their chances of market success. To enhance the typology's theoretical foundation, this study develops and tests several propositions empirically. These propositions refer to each strategy's unique combination of value creation and capture capabilities.

Accordingly, the present article offers four main contributions. First, this research extends the theoretical foundation of Treacy and Wiersema's typology. The typology's contribution lies in detailing value creation mechanisms but without providing similar insights into value capture. In line with studies that propose that integrating value creation and capture is a key means for firms to create customer value and sustain their operations (e.g. Becker & Lillemark, 2006; Fang et al., 2011; Mizik & Jacobson, 2003; Srinivasan et al., 2011), the current study details value capture capabilities, according to their strategic types. On the basis of studies that apply the resource-based view to marketing and identify relational and intellectual market-based assets as relevant types (Srivastava, Fahey, & Christensen, 2001; Srivastava, Shervani, & Fahey, 1998), this extension explicates the interplay of value creation and capture in the context of Treacy and Wiersema's typology.

Second, this conceptual contribution offers propositions regarding the mechanisms by which each strategy creates a competitive advantage through customer value. Consistent with configuration theory (Ketchen, Thomas, & Snow, 1993; Miller, 1987; Venkatraman, 1989), each strategy in Treacy and Wiersema's typology should correspond to a particular mix of value creation and capture capabilities, which then leads to success in the marketplace. Configuration theory suggests that no specific, individual activity, but rather the specific configuration of capabilities, leads to strategic advantages and superior performance. Some capabilities are beneficial for a specific configuration but irrelevant or even detrimental to others (Meyer, Tsui, & Hinings, 1993).

Third, this study empirically identifies each strategy's operating model and confirms its superior customer value performance, using fuzzy set qualitative comparative analysis (fsQCA). This analytical technique belongs to the group of set theoretic methods (Fiss, 2011; Ragin, 1987, 2000) and can identify which combinations of variables, such as value creation and capture capabilities, lead to an outcome of interest. The fsQCA approach increasingly appears in management (e.g. Fiss, 2011; Garcia-Castro & Francoeur, 2016; Greckhamer, Misangyi, Elms, & Lacey, 2008; Ordanini & Maglio, 2009) and marketing (e.g. Ordanini, Parasuraman, & Rubera, 2014; Wu, Yeh, Huan, & Woodside, 2014) research. Because the fsQCA aligns with the premises and performance implications of configuration theory (Fiss, 2011; Ketchen et al., 1993; Miller, 1987), this approach also is appropriate for the current research, which entails a complex configuration analysis (Ragin, 2000). The technique can identify all possible effective configurations and does not assume that any one solution will be the most optimal.

Fourth, Treacy and Wiersema emphasize the need for firms to focus their attention but simultaneously urge firms to make complementary investments, noting

> Companies that have taken leadership positions in their industries … typically have done so by narrowing their business focus, not broadening it. They have focused on delivering superior customer value in one of three value disciplines—product leadership, operational excellence, or customer intimacy. They have become champions in one of these disciplines *while meeting industry standards in the other two* (Treacy & Wiersema, 1993, p. 84; emphasis added).

However, the level to which the implementation of each strategy involves trade-offs remains unclear and begs further exploration. Therefore, exploring the degree to which such trade-offs exist offers meaningful insights.

With a configurational lens (Fiss, 2011; Meyer et al., 1993), the test of the typology and related propositions relies on a sample of 110 firms and 242 customers, analyzed in fsQCA. The derived combinations closely match the strategic, ideal types identified by the typology and the related propositions. However, a surprising result also emerges: Whereas value creation variables involve important trade-offs, value capture variables lack such tension and adhere to a "the more, the better" logic. Firms whose profiles are more distant from an ideal profile suffer negative performance implications, with significant correlations, as expected, which offers extra support for the typology.

2. Theoretical background and propositions

2.1. Treacy and Wiersema's typology

Focusing on the value created by a firm, and how and why customers appreciate it, Treacy and Wiersema (1993, 1995) identify three value disciplines. To create competitive advantage, a firm can choose product leadership, operational excellence, or customer intimacy as its strategy. Firms pursuing product leadership strive to produce a continuous stream of innovative products and services and permanently look for new solutions to their customers' problems (Treacy & Wiersema, 1993). Operational excellence describes firms that are industry leaders in terms of price and convenience, because they minimize internal cost, such as by eliminating unnecessary production steps or optimizing business processes. Finally, firms pursuing a strategy of customer intimacy shape and adapt products and services to fit customers' needs, prioritizing the lifetime value of the customer relationship over initial costs (Treacy & Wiersema, 1993). So, the three strategies create competitive advantages by offering customers high product performance, the lowest costs, or the most customized solution and least hassle, respectively.

Similar to most typologies (e.g. Miles & Snow, 1978; Porter, 1980), Treacy and Wiersema's types represent universal strategies for firms to pursue and achieve superior performance. However, depending on the circumstances (e.g., stage of technological maturity in the market or industry sector), different distributions may arise. For example, in technologically mature markets, operational excellence and customer intimacy may be dominant strategies, even if firms adopting a product leadership strategy could prevail as well. In contrast, in more technologically dynamic markets, product leaders may dominate and compete for market share with operationally excellent firms, which emerge once the technology has proven useful for serving more stable market segments. Across industry sectors, asset-intensive sectors may ward off new entrants, which seek to compete through product leadership or customer intimacy, and mainly consist of cost-driven firms that strive for operational excellence. The energy and airline industries represent good examples of such a setting.

A comparison of Treacy and Wiersema's (1993, 1995) typology with Porter's (1980) generic strategies of differentiation, cost leadership, and focus reveals some important differences: Treacy and Wiersema emphasize the bond between firms and customers and customers' perceptions of the value delivered. For all three types of market leaders, the focus on customer value is part of the corporate culture and acts as a dynamic capability that safeguards organizations' competitive advantage. Such firms remain sensitive to the value delivered to customers and understand that customers perceive not absolute but relative value; customers compare any product (or service) against current and new alternatives in the marketplace and look for noticeable value differences.

Furthermore, Treacy and Wiersema (1993) argue that firms cannot neglect any of the three value disciplines but still should specialize and excel in one. In this regard, their typology takes a holistic perspective: Although technological advances in product innovations may be more important for certain firms, lower cost supplies or customer relationships still are key to ensure market access. Similarly, firms relying heavily on customer relations may be able to insulate and secure sales,

but they cannot ignore technological progress or efficient operating procedures if they hope to stay competitive.

Finally, two of the three strategies appear at least partially in both typologies, but Treacy and Wiersema (1993, 1995) take Porter's (1980) generic market focus strategy and convert it into customer intimacy. They make a strong case that, apart from technological or operational dimensions, social relationships between firms and their customers also can explain competitive advantages. Paying attention to customer relations and adjusting a product or service to customer-specific needs prompts reciprocation, in the form of higher margins and repeated business. Customer intimacy thus entails a better-than-average focus on customers' unique needs, through customization and superior service, which represents a competitive advantage that goes beyond a pure marketing perspective. Firms with a customer intimacy approach invest in relationship-specific assets that benefit joint learning while reducing transaction costs (Dyer & Singh, 1998).

2.2. Conceptual framework

Value creation and capture capabilities are jointly responsible for a firm's unique position in the marketplace, competitive advantage, and sustainable success. Consistent with Drucker's (1973) observation that R&D and marketing/sales represent the key functions linked to these two value mechanisms, the present study extends Treacy and Wiersema's typology by specifying the relevant value creation and capture capabilities of the three strategies. Value creation capabilities refer to firms' abilities to develop new products using different approaches; value capture capabilities are their abilities to use market-based assets to attract and retain customers for these products.

In the value creation domain, three types of capabilities are associated with the three value disciplines: exploration, exploitation, and adaptation. Insights into the first two stem from exploration–exploitation literature (e.g. He & Wong, 2004; March, 1991); the latter refers to the emerging stream of research on hybrid offerings and customization (e.g., Ulaga & Reinartz, 2011). Treacy and Wiersema's (1993) product leadership strategy relates primarily to exploration, whereas exploitation is a fundamental characteristic of operational excellence. The concepts of exploration and exploitation in the context of value creation emerged about a decade after Treacy and Wiersema introduced their ideas (e.g. Atuahene-Gima, 2005; He & Wong, 2004; Sethi & Sethi, 2009). Exploration refers to a firm's ability to develop the newest products through processes of experimentation and variation (Andriopoulos & Lewis, 2009; Atuahene-Gima, 2005). Firms focusing on exploration leverage the latest technologies to create best-in-class products. Exploitation implies a firm's ability to develop new products by making experience-based improvements to existing technology and product platforms (Andriopoulos & Lewis, 2009; Atuahene-Gima, 2005). Product leadership firms clearly lean more toward exploration to execute their strategies, and operationally excellent firms prefer exploitation, which supports their goal to serve customers well and with reasonably priced products. When firms adopt a strategy of customer intimacy, a third value creation capability may emerge, in the form of adaptation. With this capability, firms use existing technology to adapt or adjust products and services to ensure that the offerings perfectly meet the needs of a particular customer or specific customer group (Cannon & Perreault, 1999; Franke, Keinz, & Steger, 2009; Treacy & Wiersema, 1993). Adaptation seeks to optimize what the firm offers customers rather than pushing the boundaries of existing technologies.

Despite Treacy and Wiersema's (1993) focus on customer value, they offer less detail about the value capture mechanism and capabilities of their ideal types. For example, they do not address the necessary investments in strategy implementation at the customer end of the market. Ray, Barney, and Muhanna (2004) note the importance of such commercial capabilities and processes for a firm's overall strategic performance. Therefore, the current study turns to Srivastava et al.'s (2001) framework of marketing-specific resources, which distinguishes

two market-based assets that can be leveraged through market-based processes, to result in superior customer value and competitive advantages. First, relational market-based assets involve "relationships between a firm and key external stakeholders," such as channel partners and customers (Srivastava et al., 1998: 5). For example, brand and channel equity result from extensive advertising or long-standing, successful business relationships. Such assets stem from reputation and trust-based elements, so "the potential exists for any organization to develop intimate relations with customers to the point that they may be relatively rare and difficult for rivals to replicate" (Srivastava et al., 2001, p. 779). Akin to relation-specific assets (Dyer & Singh, 1998), high levels of relational market-based assets then should be reflected in relationship commitment, because the firm is willing to go out of its way for customers to maintain and sustain their relationships (Morgan & Hunt, 1994). Second, intellectual market-baset assets

> are the types of knowledge a firm possesses about the environment, such as the emerging and potential state of market conditions and the entities in it, including competitors, customers, channels, suppliers, and social and political interest groups (cf. Nonaka & Takeuchi, 1995). The content or elements of knowledge include facts, perceptions, beliefs, assumptions, and projections (Srivastava et al., 1998, p. 5).

The type and sources vary widely across firms and can explain different responses. Such knowledge can help guide the firm's value creation and particularly facilitates the quality of a firm's value capture, by increasing the understanding of customer needs and how to address them using the firm's marketing and sales efforts. High levels of intellectual market-based assets thus should be reflected in the firm's ability to satisfy customers and help them accomplish their business or personal goals (Priem, 2007; Woodruff, 1997).

Fig. 1 presents the proposed framework. The three ideal strategies are on the left; the middle contains the set of five value creation and capture capabilities (exploration, exploitation, adaptation, and relational and intellectual market-based assets). In line with configuration theory (Ketchen et al., 1993; Miller, 1987; Venkatraman, 1989), each of Treacy and Wiersema's strategies should correspond to a specific mix of value creation and capture capabilities, which leads to success. In particular, some capabilities may be beneficial for a specific configuration but irrelevant or even detrimental to others (Meyer et al., 1993).

Consistent with Treacy and Wiersema's emphasis on the role of superior customer value, customer loyalty is the dependent variable. Loyal customers intend to continue purchasing products from the same firm, which is a strong determinant of the firm's long-term performance (Homburg & Giering, 2001). It is a strategically important and appropriate outcome variable for several conceptual reasons. First, loyalty results from customers' perceptions of the value of the product and their relationship with the firm (Reichheld, 2001), which are crucial from Treacy and Wiersema's perspective. As Priem (2007) notes, customers are the ultimate arbiters of value. Only when they confirm the value of the firm does an exchange take place. Second, compared with financial outcomes, customer loyalty remains unaffected by accounting principles and relates directly to the actual business processes of value creation and capture (cf. Ray et al., 2004).

2.3. Propositions

Because product leadership firms are technology driven, they focus on the exploration of new technological opportunities and strive to introduce radical innovations to the market (Treacy & Wiersema, 1993; see also March, 1991). They introduce new products that may appeal to their existing customer bases, but they also likely attract new and different customers (Bonner & Walker, 2004). Introducing new products with new technologies leads the firm into new territory. Consistently, its value capture capabilities focus mainly on ensuring acceptance of
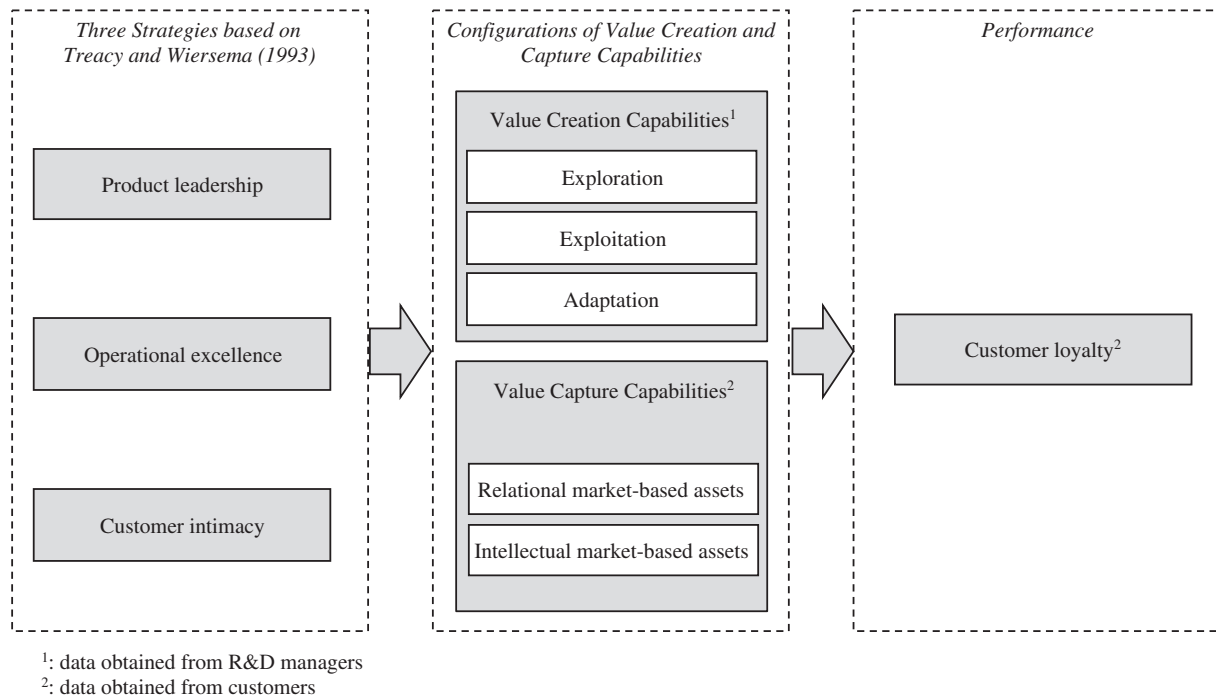
Fig. 1. Conceptual framework.

the new, advanced products, rather than investing in or extending existing relationships (Slater & Olson, 2000). For similar reasons, product leadership firms are likely less involved, if at all, in customizing products for customer segments, because that effort would just distract from attempts to further the technology.

Loyalty toward product leadership firms thus revolves around technology development and is based on a series of successful new product introductions (Henard & Dacin, 2010), which makes the contribution of value capture capabilities less relevant. This weaker role of value capture capabilities is consistent with Workman's (1993) findings that marketing has a limited role in high-tech contexts and must rely on informal rather than formal mechanisms to influence innovation processes. Because new products should be developed in accordance with customer needs, marketing's first responsibility is to ensure this adherence to customer needs during product development (Leslie & Holloway, 2006; Lynn, Morone, & Paulson, 1996). The use of intellectual market-based assets in turn should be important. The more frequently the firm extends its business into new territory, the more information about market conditions and new customer needs it requires, and the less it can rely on fostering and leveraging relational market-based assets that it accrued from existing customers. Strong commitments to existing customers even might reduce innovation levels (Bonner & Walker, 2004), such that high relational market-based assets may be negative or detrimental for this strategic type. Thus:

Proposition 1. For product leadership firms, exploration and intellectual market-based assets are critical to attain high customer loyalty.

Operational excellence firms instead aim to make existing products better and cheaper, without specifically adapting them to customer needs. The emphasis is not on using new products to attract new customer groups but rather on better serving and expanding relationships with existing customers through technology exploitation (Andriopoulos & Lewis, 2009), which can help customers reduce the cost of their operations. Primarily by relying on current technology, firms strive to stay close to their current customer base and facilitate sales of incremental innovations (Atuahene-Gima, 1995). Existing customers prefer and benefit

most from the current technology. Therefore, firms try to enhance the link with customers by improving current products, for which intellectual market-based assets need to be leveraged. Because these firms focus more on their existing customer base, investing in relational market-based assets, showing strong commitment to customers, and working closely with them to understand their needs and improve existing products is particularly important (Bonner & Walker, 2004). Then firms can leverage relational market-based assets to address current customers' needs through product improvements, which helps keep customers loyal. Accordingly,

Proposition 2. For operational excellence firms, exploitation and relational and intellectual market-based assets are critical to attain high customer loyalty.

Finally, customer intimacy firms provide individualized solutions for customers by adapting products to their specific needs and providing personal attention (Cannon & Perreault, 1999). These firms typically do not experiment with new technologies but rather optimize existing routines (Fuchs, Prandelli, & Schreier, 2010). They are mindful of the bottom line but also aware that price is not their customers' main concern. To ensure access to necessary knowledge about customer needs, such firms must develop close ties with customers (Ghosh, Dutta, & Stremersch, 2006). Their value capture capabilities drive their success and represent knowledge sources for value creation (Homburg, Wieseke, & Bornemann, 2009). Intimate relationships provide the close ties needed to gather excellent knowledge about customer needs, which enables providers to make effective adjustments (Bonner & Walker, 2004; Day, 1994). Using its relationships, the firm can develop market and customer knowledge to test and refine its offerings (Srivastava et al., 1998). Relational and intellectual market-based assets thus are closely intertwined and critical for customer intimacy firms. On the basis of these considerations,

Proposition 3. For customer intimacy firms, adaptation and relational and intellectual market-based assets are critical to attain high customer loyalty.

3. Methodology

3.1. Sample description

To identify the three strategies and test these propositions, the large-scale survey underlying this research spans multiple industries. The data collection aimed to gather information from the R&D managers and customers of the firms studied. This approach enabled the selection of the most knowledgeable informants—that is, people with the most expertise in the relevant topic—to report on each construct, which helped reduce the potential effects of informant or common method biases (e.g. Kumar, Stern, & Anderson, 1993; Podsakoff, MacKenzie, Lee, & Podsakoff, 2003).

The step-by-step data collection procedure began by randomly selecting the addresses of 1000 firms listed by a commercial address provider. Next, personalized letters aimed to identify R&D managers and request their participation, followed by several rounds of telephone calls. The R&D managers who indicated willingness to participate received a code to use to access the Internet-based survey. These efforts resulted in 126 completed R&D questionnaires. Because of their knowledge about R&D in general and the firm's innovation process in particular, these R&D manager informants assessed their firms' value creation capabilities. The questionnaire also solicited contact information for at least five general customers. The request emphasized that their feedback and participation would make sense only if they listed customers broadly representative of their customer base.

The next step involved contacting the customers identified by the managers, again using personalized letters and follow-up telephone calls. These customers provided information about their loyalty and the value capture capabilities of the selling firm. Specifically, they evaluated its market-based assets, using firm commitment and customer satisfaction as proxies (Homburg et al., 2009; Moorman, Zaltman, & Deshpande, 1992). As Srivastava et al. (1998, 2001) note, market-based assets are intangible and thus hard to measure. Furthermore, only customers are proper judges of market-related efforts conducted on their behalf (De Wulf, Odekerken-Schröder, & Iacobucci, 2001; Priem, 2007). To ensure valid responses, the questionnaire emphasized that these assessments were intended solely for research purposes and would be forwarded anonymously to the firm that identified them. The 242 responses received represented 110 firms (response rate = 87.3% of identified customers). The demographic information about both samples is in Table 1.

3.2. Measurement

The measures for the different study constructs stem from extant innovation and marketing literature. The pretests and refinement of the scales involved field interviews with a small set of academics and practitioners. The final set of items, including their sources and the descriptions of the respondents, appear in the Appendix A.

Exploratory and confirmatory factor analyses ensured the reliability and validity of the reflective multi-item measures (Bagozzi & Baumgartner, 1994; see also Table 2). For all constructs, the Cronbach's alpha exceeded the recommended minimum of .7 (Nunnally, 1978). Composite reliability was greater than the recommended minimum value of .6, and the average variances extracted exceeded the desired value of .5 (Bagozzi & Yi, 1988). The test for discriminant validity relied on Fornell and Larcker's (1981) criterion. As Table 2 shows, the average variances extracted were greater than the highest shared variance (i.e., squared correlation), which demonstrated satisfactory discriminant validity. All factor loadings, detailed in the Appendix, were statistically significant at $p < .001$ on their respective constructs.

The index of within-group interrater reliability (r_{wg}) revealed whether aggregating customers' assessments of each firm was appropriate (James, Demaree, & Wolf, 1984). In support of the data aggregation, the median r_{wg} values for all constructs evaluated by customers

Table 1
Sample Characteristics.

A: Industry (firm sample)	
Software/IT	28.2%
Other	20.9%
Utilities	20.0%
Electronics	16.4%
Machinery	14.5%
B: Annual revenues (firm sample)[a]	
<$10 million	33.6%
$10–$25 million	21.8%
$25–$50 million	14.5%
$50–$100 million	11.8%
$100–$500 million	10.0%
>$500 million	8.2%
C: Industry (customer sample)[a]	
Machinery/electronics	20.7%
Utilities	14.0%
Other	13.6%
Industrial services	7.4%
Automobiles	7.0%
Commercial trade	6.6%
Chemicals	5.8%
Healthcare	5.8%
Software/IT	5.4%
Energy	4.1%
Media	3.7%
Tourism/transport	3.3%
Financial services	2.5%

[a] Percentages do not add up to 100% due to rounding errors.

exceeded the proposed minimum of .7 (Burke, Finkelstein, & Dusig, 1999). Therefore, the analysis process averaged the customer responses for each firm into a single composite value for subsequent calculations (Van Bruggen, Lilien, & Kacker, 2002).

Several tests diagnosed the potential for common method bias. First, Harman's single-factor test indicates common method bias only if a single-factor model for all manifest variables is significantly worse than the multifactor measurement model (Podsakoff et al., 2003). However, the single-factor model resulted in significantly worse fit than the measurement model with all constructs ($\Delta\chi^2$ (10 df) = 981.6, $p < .01$). The correlations between observed variables cannot be explained using a single factor. Second, a marker variable test (Lindell & Whitney, 2001) used company size as the marker variable, which theoretically should be uncorrelated with exploration (Atuahene-Gima, 2005). All correlations remained significant after controlling for the marker variable's effect. Thus, no major influence of a common method bias appeared in the results (Van Doorn & Verhoef, 2008).

3.3. Testing procedure

To identify configurations of superior customer value, this study used fsQCA to derive effective configurations and deviation score analysis to investigate their performance further. As noted previously, fsQCA is a set theoretic method that allows for a detailed analysis of which combinations of causal conditions lead to a specific outcome (Fiss, 2007; Greckhamer, 2011). Such methods explicitly conceptualize each case as a combination of attributes, so they can address relationships among constructs marked by complementary, additivity, substitution, or suppression effects. In this sense, fsQCA is "uniquely suitable for testing typological and configurational theory because [these methods] explicitly conceptualize cases as combinations of attributes and emphasize that it is these very combinations that give cases their uniqueness" (Fiss, 2011, p. 401). In addition, fsQCA avoids issues associated with traditional cluster analysis, such as generating empirically driven clusters that are not informative about a specific outcome or relying on subjective stopping rules to determine the appropriate number of configurations (Whittington, Pettigrew, Peck, Fenton, & Conyon, 1999).

Table 2
Means, standard deviations, scale reliabilities, average variance extracted, and correlations.

	Mean	SD	Cronbach's alpha	CR	1	2	3	4	5	6
1. Exploration	3.70	1.28	.85	.86	.69	.30	.12	.00	.00	.00
2. Exploitation	4.75	1.13	.79	.82	.55	.61	.04	.00	.00	.01
3. Adaptation	4.81	1.20	.73	.83	.34	.21	.63	.01	.03	.01
4. Relational market-based assets	5.00	.81	.90	.92	.01	−.04	−.10	.66	.19	.26
5. Intellectual market-based assets	5.70	.77	.94	.95	−.05	−.03	−.17	.44	.80	.50
6. Customer loyalty	5.80	.86	.87	.92	−.07	−.09	−.09	.51	.71	.80

Notes: N = 110. CR = Composite reliability. The average variance extracted for each construct appears underlined on the diagonal. The shared variances appear in the upper half of the matrix, whereas correlations are reported in the lower half. Correlations of .20 or greater are significant at the 95% level (two-tailed).

As introduced by Ragin (1987, 2000, 2008); Rihoux & Ragin, 2009), fsQCA systematically assesses which combinations of causal factors are sufficient or necessary to achieve a specific outcome. The present study examines configurations of value creation capabilities—exploration, exploitation, and adaptation—and value capture capabilities—relational and intellectual market-based assets—to identify combinations of these variables that lead to the desired outcome of (very high) customer loyalty. The analysis entails three fsQCA steps (Fiss, 2011): determination of each case's membership measures, evaluation of consistency between identified configurations and the outcome, and logical reduction and interpretation.

In a first step, fsQCA determines each firm's membership in the so-called configuration set, which denotes the existing combinations of value creation and capture capabilities on the basis of a Boolean algebra, such that each activity can be either present or absent. To capture the three value creation and two value capture capabilities, the configuration set includes a maximum of $2^5 = 32$ possible combinations of present/absent capabilities. These sets are represented in binary form (i.e., presence or absence of variables), so the variables need to be transformed. As suggested by prior literature (Fiss, 2007, 2011), a fuzzy-set calibration approach can reflect the varying degrees to which a specific case belongs to the combinations within a configuration set. This approach also provides theoretically motivated, qualitative anchors that identify the points of presence (so-called ceiling), absence (so-called floor), and crossover between presence and absence for each measure (Ragin, 2000). Next, the fsQCA software transformed the ordinal (or continuous) measures into a purposely calibrated scale, from 0 to 1. The ceiling is represented by a score of 1 (full membership), the floor takes a score of 0 (full non-membership), and the crossover point transforms into a score of .5. All other values in the original scale are transformed to this continuous scale as well. The authors also made several informed decisions regarding these calibrations.

For the seven-point Likert-scale of exploration (1 = "strongly disagree," 7 = "strongly agree"), 1 and 7 represented full non-membership (floor) and full membership (ceiling), respectively. The midpoint of the scale (4 = "neutral") provided the crossover point. For exploitation and adaptation, 5 rather than 4 served as the crossover point, because the distribution of these variables was slightly skewed to the high end of the scale (see Table 2). In relation to relational and intellectual market-based assets, 1 and 7 were again the values for full non-membership (floor) and full membership (ceiling), and 5 provided the crossover point, because these variables also skewed to the high end of the scale. With these anchors, each variable's raw scores underwent a similar transformation, again using the fsQCA software. Seventeen possible configurations had at least one case and entered the analysis.

A second step involved evaluating the consistency of the identified configurations from the first step with the outcome of interest. In this case, the authors sought to determine which combinations were effective for very high customer loyalty. Membership in the set of very high performance firms was determined according to 1 for full non-membership (floor) and 7 for full membership (ceiling). Assuming that 4 (actual midpoint) reflects average performance and 5 is above-average performance, 6 served as the crossover point at which a firm's customers became very loyal.

A configuration is highly consistent if a large share of cases in a particular configuration identified in the first step actually is associated with high customer loyalty. In other words, consistency indicates the relationship between the number of cases that exhibit a given configuration (of present and absent value creation and capture capabilities) as well as the outcome (i.e., very high customer loyalty) and the number of cases that exhibit the same configuration but do not necessarily exhibit the outcome. The formal representation of this calculation is:

$$\text{Consistency}(X_i \leq Y_i) = \frac{\sum [\min(X_i; Y_i)]}{\sum (X_i)},$$

where for case i, X_i equals membership scores in the X configuration, and Y_i indicates membership scores in the outcome set. The lowest acceptable consistency for solutions was .89, which clearly exceeds the recommended minimum consistency level of .75 (Ragin, 2006, 2008).

The third and final step entailed the logical reduction and interpretation of the solution by eliminating any redundant elements, to derive the final set of configurations. Consider two configurations that passed the consistency cut-off in the second step: one suggests that variables A and B are present and C is absent, and the other suggests variables A, B, and C all are present. These two solutions could be reduced to a single configuration in which A and B are present (and C is neutral).

In addition, fsQCA distinguishes between a broad (so-called complex) solution and a narrow (parsimonious) solution. The difference results from this logical reduction step, which indicates the level of importance of specific variables for an effective configuration. Core elements are essential, but peripheral elements are less important or even expendable to an organization (e.g. Grandori & Furnari, 2008; Hannan, Burton, & Baron, 1996). Fiss (2011) uses this distinction to argue that typologies consist of core and peripheral elements, defined as causal conditions for which empirical evidence indicates strong (part of the parsimonious solution) and weak (part of the complex solution) causal relationships with the outcome of interest, respectively. The strength of the causal relatedness of specific attributes in configurations to the outcome of interest is key. The current study adopts this logic to interpret the results too.

4. Results

4.1. fsQCA results: Configurations for very high customer loyalty

The results of the fsQCA suggest three effective configurations for achieving very high customer loyalty, as detailed in Table 3. The solution yields high overall consistency (.85), indicating that the "solution terms and the solution as a whole are subsets of the outcome" (Ragin, 2008, p. 85). This adequate consistency is necessary to evaluate the empirical importance of any result for the outcome of interest (Greckhamer, 2011). Each specific solution also yields high consistency (≥.89), well above the minimum recommended threshold of .75 (Ragin, 2006, 2008). Therefore, the data are largely consistent with the argument

Table 3
fsQCA results of configurations for very high customer loyalty.

	Solutions		
	1	2	3
1. Exploration	●		×
2. Exploitation	×	●	
3. Adaptation	×	×	●
4. Relational market-based assets		●	●
5. Intellectual market-based assets	(●)	(●)	●
Consistency	.89	.89	.89
Raw coverage	.43	.52	.52
Unique coverage	.05	.08	.09
Overall consistency		.85	
Overall coverage		.67	

Notes: The ● symbol indicates the presence, and the × symbol indicates the absence of a condition. Entries without parentheses indicate core conditions; entries with parentheses indicate peripheral conditions. Blank spaces indicate that the condition does not matter for a particular solution.

that each configuration is a sufficient condition for the outcome of very high customer loyalty.

The overall coverage measure indicates the proportion of memberships in the outcome, that is, the proportion of the cases with high customer loyalty, which is explained by the whole solution. Overall coverage thus represents exploratory power and has a meaning similar to R-square values in regression analyses (Fiss, 2007; Ordanini et al., 2014). The score of .67 suggests that the overall solution accounts for 67% of the sum of the memberships in the desired outcome of customer loyalty. In other words, the three effective configurations together cover 67% of the cases associated with high customer loyalty. Then, with regard to each solution's specific coverage scores, raw coverage is distinct from unique coverage. The raw coverage score is based on partial memberships (which include cases that belong to multiple solutions as part of the fuzzy clustering approach), whereas unique coverage "measures the proportion of memberships in the outcome explained solely by each individual solution term (memberships that are not covered by other solution terms)" (Ragin, 2008, p. 86). Solutions 1–3 yield raw coverage scores in the range of .43–.52 (i.e., 43–52%), and their unique coverage scores are in the range of .05–.09, so all three solutions are important. Together, the coverage scores compare favorably with values reported in related research (e.g. Fiss, 2011; Greckhamer, 2011).

The three configurations of the solution also closely match the three ideal types in Treacy and Wiersema's (1993, 1995) typology. They indicate clear trade-offs in the value creation domain too. Solution 1 resembles a product leadership strategy that requires exploration but refrains from exploitation or adaptation. Solution 2 resembles operational excellence; this configuration focuses on exploitation and does not simultaneously engage in adaptation practices. However, a combination with exploration is possible, because this score is indifferent. Finally, Solution 3 looks like customer intimacy, relies on adaptation, and refrains from exploration, whereas exploitation is indifferent.

As expected, each configuration aligns with appropriate value capture capabilities. The product leadership strategy (Solution 1) succeeds only when firms can use intellectual market-based assets. Yet value capture capabilities actually are more important for the other two types. The causal configurations involving both operational excellence and customer intimacy (Solutions 2 and 3) require leveraging both relational and intellectual market-based assets.

The distinction between core and peripheral conditions provides further information and a more detailed understanding of the three ideal configurations. For all three configurations, the value creation conditions and their related trade-offs represent core conditions (Table 3). Among value capture capabilities, the results indicate no trade-offs but several variations. For example, for product leadership (Solution 1), intellectual market-based assets are peripheral; for customer intimacy (Solution 3), both relational and intellectual market-based assets are

core. For Solution 2, relational market-based assets constitute a core element, and intellectual assets have peripheral importance.

These results support Proposition 1, in that product leadership firms combine exploration with intellectual market-based assets, though the latter is of only peripheral importance. In general support of Proposition 2, operational excellence firms combine exploitation and relational market-based assets as core conditions, and intellectual assets appear, though only with peripheral importance. Finally, Proposition 3 receives full support from Solution 3, in which adaptation and relational and intellectual market-based assets emerge as core conditions.

4.2. fsQCA results: Configurations for low customer loyalty

Because the causes that lead to the presence of an outcome may differ from those that result in its absence (Ragin, 2008), this analysis also explored causal configurations associated with poor performance. This added analysis enhances the robustness of the findings. As Table 4 shows, four solutions offer good overall consistency (.94) and overall coverage (.50). All the solutions exclude value capture capabilities; these firms failed to leverage any market-based assets. The fourth solution resembles Porter's (1980) "stuck in the middle" class in the value creation domain, and the other three simply lack distinctive capabilities in any domain. At best, they are characterized by indecisive exploitation or adaptation, without clear complementary capabilities.

4.3. Deviation score analysis

As a final step for the main analysis, deviation score analyses checked the robustness of the fsQCA solution (Vorhies & Morgan, 2003). These analyses test the assumption that firms with a profile that closely matches one of the effective or ideal configurations outperform their rivals. The computation of each firm's Euclidean distance (or dissimilarity) from each ideal configuration determines its closest match (cf. Vorhies & Morgan, 2003). If a firm falls between profiles (i.e., Euclidean distance between profiles ≤10% difference), it can be allocated to multiple configurations. The analysis then checked the assumption that a closer match with an ideal configuration would result in better performance, by regressing the Euclidean distance on the level of customer loyalty for each subset of cases in close proximity with each ideal profile. Consistent with the provided reasoning, the authors expected a negative beta coefficient between Euclidian distance and customer loyalty.

The formula for calculating the overall distance between a point X and a point Y is $\sqrt{\sum_{i=1}^{n}(x_i - y_i)^2}$, such that y_i refers to the ith dimension of the effective configuration; x_i indicates the score of a particular case (Vorhies & Morgan, 2003); and d is the distance or overall dissimilarity of that case from an effective configuration. Original measurement scores provided the input for these computations, such that values of

Table 4
fsQCA results for configurations for low customer loyalty.

	Solutions			
	1	2	3	4
1. Exploration	×	×	×	●
2. Exploitation	×		×	●
3. Adaptation		×	×	●
4. Relational market-based assets	×	×		×
5. Intellectual market-based assets	×	×	×	×
Consistency	.93	.93	.93	.95
Raw coverage	.42	.39	.38	.38
Unique coverage	.02	.01	.01	.05
Overall consistency	.94			
Overall coverage	.50			

Notes: The ● symbol indicates the presence, and the × symbol indicates the absence of a condition. All entries are peripheral conditions. Blank spaces indicate that the condition does not matter for a particular solution.

7 and 1 indicated core attributes that were required or should be absent, respectively. To account for the smaller impact of peripheral characteristics on the aggregate deviation score, this method multiplied the deviations by .67 (i.e., $^2/_3$).

Table 5 shows the regression results for each ideal configuration. The allocation of cases suggests that a product leadership strategy is less prevalent than operational excellence or customer intimacy. All three solutions reveal significant adjusted R-square and beta coefficients, indicating that more dissimilar firms suffer significantly lower levels of customer loyalty than those that closely match the ideal profile. These results provide further confidence in the validity of the configurations for very high performance, from a different angle of analysis.

5. Discussion

5.1. Research implications

Treacy and Wiersema's (1993, 1995) typology is widely disseminated in business practice and gaining momentum in strategic management literature (e.g. Homburg & Bucerius, 2006; Thornhill & White, 2007). Inspired by the notion underlying this typology and drawing on marketing research that indicates the integration of value creation and capture as crucial for firms to achieve sustainable superior customer value (e.g. Fang et al., 2011; Mizik & Jacobson, 2003; Srinivasan et al., 2011), the current study set out to provide a detailed theoretical elaboration and empirical test of how value creation and capture capabilities align in Treacy and Wiersema's typology. For the three value disciplines—product leadership, operational excellence, and customer intimacy—this research conceptually derives relevant sets of key value creation and capture capabilities and develops propositions about which combinations and alignments create competitive advantage through superior customer value. The results confirm the existence of three equifinal pathways (e.g., Meyer et al., 1993) to high customer loyalty that resembles the previously identified strategies. Present and absent value creation and capture capabilities within each solution, as well as the degree to which they are relevant (i.e., core or peripheral), reveal that specific configurations effectively create the causal conditions for performance, which support the configurational lens adopted as a theoretical perspective.

To Drucker's (1973) claim that for every investment in innovation, exponentially more should be spent on marketing, this study responds that he is right but exaggerated. Value creation and capture are both important; the amount of attention and resources allocated to value capture is necessarily contingent on the firm's value creation strategy. However, the absence of value capture capabilities was the most common reason for a firm's failure. Neglecting value capture sparks severe punishment by the market. Consistent with Treacy and Wiersema (1993), the present study shows that value creation capabilities dominate in all three effective configurations, though these configurations also involve important trade-offs among various value creation capabilities and require complements by appropriate value capture capabilities. The ability to leverage intellectual market-based assets should be present in all effective configurations, though it varies in terms of whether it takes core or peripheral status. For firms engaged in the exploration or exploitation of new products, such as product leadership

and operational excellence firms, intellectual market-based assets are less important than for those engaged in customer intimacy. Relational market-based assets are not important for product leadership but core for operational excellence and customer intimacy. A technology push may create its own demand and make the sales job easier, but selling new and customized products to current customers requires greater efforts to evoke customers' interest and maintain the relationship by building and leveraging relational market-based assets. These insights offer a major leap forward, extending prior empirical studies of the interface of value creation and capture by specifying the role of relational and intellectual market-based assets (e.g. Fang et al., 2011; Mizik & Jacobson, 2003; Srinivasan et al., 2011).

The results also confirm that market leaders must make clear choices and focus on one value discipline to achieve a competitive advantage. However, Treacy and Wiersema's suggestion that they should be on par with their industry for the other two disciplines requires a slight modification, in that it applies to value capture capabilities but not value creation. Regarding value creation, trade-offs arise among capabilities in all three solutions. A product leadership firm should engage in exploitation but refrain from product adaptation, which only distracts from its main goal. The significant exploration efforts that a product leadership firm makes require the complementary ability to use intellectual market-based assets in the marketplace to attract customers for the newly developed products. To regularly chart new territory, investments in relational market-based assets are useful but less decisive for firms' success. In contrast, operational excellence requires a clear focus on exploitation and is neutral with regard to exploration, but such firms should not engage in adaptation. Similarly, Bonner and Walker (2004) report that firms developing incremental new products tend to have closer ties with customers and rely on their homogeneous knowledge, which ensures that the products developed can be sold readily to existing customers by leveraging their relational assets. Finally, customer intimacy is closely linked to adaptation efforts, as anticipated. It benefits, to some degree, from the exploitation of existing technology, but it should never focus on the exploration of new technology. Value capture capabilities are most essential for a customer intimacy strategy, because without close customer ties, these firms would not be able to offer products closely aligned with their customers' needs. They require serious investments in market intelligence and relational assets to achieve and sustain competitive advantages.

Thus, the results generally confirm Treacy and Wiersema's claim that superior customer value benefits from a firm's adherence to one value discipline, but adequate performance in some of the other disciplines is necessary too. However, in contrast with their advice—and more in accordance with Porter's (1980) suggestions—some trade-offs also are important. The deviation score analyses offer additional support for the fsQCA results, confirming that firms closer to ideal profiles of product leadership, operational excellence, and customer intimacy perform better by maximizing their value and competitive stance.

Finally, ambidexterity literature suggests that firms enjoy excellent performance if they manage to combine exploration and exploitation (Andriopoulos & Lewis, 2009; De Visser, Faems, Van Looy, Visscher, & De Weerd-Nederhof, 2009); the current study cannot confirm this assertion in relation to the specific performance variable. These results suggest

Table 5
Deviation scores regressed on customer loyalty.

Independent variables	Percentage of cases	Beta	t-Value	Adjusted R^2	F-value
Distance to solution 1: Product leadership	15.3	−.59	−3.5[***]	.32	12.1[***]
Distance to solution 2: Operational excellence	48.5	−.36	−2.9[***]	.12	8.7[***]
Distance to solution 3: Customer intimacy	36.2	−.47	−4.7[***]	.21	21.9[***]

Notes: The independent variables refer to Solutions 1, 2, and 3 from Table 3.
[***] $p < .001$.

that exploration and exploitation rarely combine beneficially if the goal is customer loyalty. In the present analysis of poor performance outcomes (Table 4), firms that fail to make clear choices suffer a backlash in customer loyalty. Perhaps exploration prevents firms from optimizing their existing technology while they transfer to a new technology. The typology instead reflects Porter's (1980) recommendation to make clear strategic choices and avoid getting stuck in the middle.

5.2. Managerial implications

The popularity of Treacy and Wiersema's (1993, 1995) typology among managers continues to increase. The results of this study provide empirical evidence of its validity and positive relationship with performance in the marketplace. Managing the interplay of multiple value creation and capture capabilities to attain excellent performance, such as very high customer loyalty, is a constant challenge though. Functional managers need to acknowledge the interplay across different value creation and capture capabilities to create ideal configurations suggested by Treacy and Wiersema, some 20-odd years ago, and captured in the propositions.

Managers first should decide which of the three ideal types they want to pursue, then develop and align value creation and capture capabilities accordingly, while avoiding investments in detrimental value creation capabilities. Clear managerial decisions and corresponding commitments are necessary to implement any of the effective configurations successfully. The more a firm resembles one of the ideal types, the better its performance outcome, which suggests that firms should closely track and control their progress in implementing one of the promising configurations by focusing on their unique combination of value creation and capture capabilities. Managers also should measure their progress toward the ideal configuration of their choice, to help minimize detrimental deviations.

Managers need to attend closely to the challenges for each ideal type. For example, product leadership firms must select new product ideas that ensure satisfied customers in the marketplace (Verworn, 2009), through an explicit link to customers' needs, but also prevent chasms in the diffusion processes of new products. For firms pursuing operational excellence, the main issue is sensitivity about when to move toward a new technology, which may help prevent inertia. Finally, customer intimacy firms cannot neglect, and even might actively pursue, enhanced efficiency to stay ahead of the competition. In this case, they should recognize that customization success ultimately depends on the costs involved and the potential for more efficient alternatives.

5.3. Limitations and avenues for further research

Despite these contributions, this study contains several limitations that suggest directions for further research. In operationalizing very high performance, this study relied on customer loyalty data from customers, consistent with Treacy and Wiersema's emphasis on the role of superior customer value as a determinant of a firm's long-term performance (Homburg & Giering, 2001). However, other dependent variables should be considered too. For example, rather than relying on subjective customer ratings, objective repurchase data or customer lifetime value estimates might be insightful, and other market position and financial indicators may be considered as well.

With its cross-sectional perspective, this research cannot investigate changes in firms' configurations over time. A longitudinal approach would enable researchers to explore how and why specific firms choose to pursue a particular strategy or change it over time. This view would offer a more dynamic view of Treacy and Wiersema's typology than the current snapshot.

Another valuable path might be to study contingency effects. A dependency analysis might reveal technological and market conditions in which the different ideal configurations are more or less successful, and in which circumstances. For example, industry growth, average margins, or R&D intensity usually influence the potential competitive advantage any particular strategy may offer in a given situation. This effort would shed more light on contingent performance implications, reveal differences among various industry sectors, and offer additional managerial insights into the successful implementation of effective configurations.

Finally, a performance comparison of the three effective configurations from this study with related typologies may be valuable. A conceptual and empirical investigation of Porter's (1980) and Miles and Snow's (1978) typologies might improve comprehensive understanding of their similarities and differences and offer firms some new perspectives regarding their own strategic choices.

Acknowledgments

Appendix A. Constructs and scale items

Constructs and scale items	Factor loadings
Exploration (Respondents: R&D managers; adapted from March, 1991)	
In our company, the generation of innovations (in particular organizational learning) is supported by	
… variations of processes.	.61
… planned experimentation.	.98
… the playful use of processes.	.86
Exploitation (Respondents: R&D managers; adapted from March, 1991)	
In our company, the generation of innovations (in particular organizational learning) is supported by	
… in-house search for solutions.[a]	.54
… experience-based process improvements.	.76
… processes of selection and reuse of existing routines.	.98
Adaptation (Respondents: R&D managers; self-developed scale)	
In general, we carry out extensive internal adjustments to work effectively with our customers.	.96
In general, developing our employees (e.g., training) to work effectively with our customers is very costly and time-consuming.	.64
In general, our logistics systems are adjusted to work effectively with our customers.	.74
Commitment [proxy for relational market-based assets] (Respondents: customers; adapted from Morgan & Hunt, 1994)	
The company XY	
… defends us when others criticize us.	.81
… is very committed to us.	.87
… is willing to expend any resources for us to make our sales increase.	.84
… is willing to make sacrifices to help us out at times.	.84
… is patient with us when we make mistakes.	.76
… expects to be our supplier for a longer period of time.	.75
Satisfaction [proxy for intellectual market-based assets] (Respondents: customers; Homburg & Stock, 2004)	
We are very pleased with the products and services that this company delivers.	.90
We enjoy collaborating with this company.	.91
On an overall basis, our experience with this company has been positive.	.91
This company is first choice for us for the purchase of these products and services.	.82
On an overall basis, we are satisfied with this company.	.92
Customer loyalty (Respondents: customers; adapted from Homburg & Giering, 2001)	
We intend to maintain a long-term relationship with this seller.	.93
It is very likely that we will purchase products/services from this seller again.	.82
We intend to stay loyal with this seller.	.92

Notes: All items measured with seven-point rating scales, anchored by 1 = "strongly disagree" and 7 = "strongly agree."

[a] This item was deleted for the main analysis, because of its cross-loading > .4 with exploration.

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