



How important is customer orientation for firm performance? A fuzzy set analysis of orientations, strategies, and environments☆



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ABSTRACT

Prior literature suggests that customer orientation interacts with other strategic factors, but yields mixed effects in terms of performance outcomes. In addition, capturing performance outcomes of complex systems of interdependencies using commonly employed methods, such as regression models, is often difficult. Thus, this study employs a configurational approach, using fuzzy set Qualitative Comparative Analysis (fs/QCA), to analyze the constellations of differential strategic orientations, strategy types, and market conditions that yield superior performance. The study finds no evidence of high-performing configurations without customer orientation and shows that highly performing firms configure themselves around their customer orientation in three different ways. The results have implications for market orientation theory as well as for configurational and (marketing) strategy research in general.

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1. Introduction

Customer orientation is a key focus for any firm's relationship to its market (Deshpandé, Farley, & Webster, 1993; Kohli & Jaworski, 1990; Leeflang, 2011). As the central component of market orientation, customer orientation is also an important driver of firm performance (Kirca, Jayachandran, & Bearden, 2005). A number of studies, however, have raised questions regarding a universally positive effect of customer orientation (e.g., Danneels, 2003; Hult, Ketchen, & Slater, 2005). Findings from previous studies suggest that enhancing customer orientation may cause firms to focus on their customers too much and, as a result, to overlook newly emerging customer needs (Christensen & Bower, 1996), decreasing the novelty of their products (Im & Workman, 2004) and their ability to develop market-breakthrough innovations (Zhou, Yim, & Tse, 2005) as well as reducing firm performance (Voss & Giraud Voss, 2000).

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The effectiveness of customer orientation also depends upon environmental conditions. In markets with low demand uncertainty, in particular, studies report that customer orientation fails to enhance innovation performance (Gatignon & Xuereb, 1997). Some studies, therefore, push toward more contingent explanations, including those that focus on the moderating role of business strategy and firm environment (Matsuno & Mentzer, 2000; Olson, Slater, Tomas, & Hult, 2005; Woodside, Sullivan, & Trappey, 1999) and high-performing combinations with other strategic orientations (Gatignon & Xuereb, 1997; Voss & Giraud Voss, 2000). This literature is developing toward a perspective of firms as complex systems of interdependent characteristics and choices in which competitive advantage frequently does not rest on a single attribute but, instead, resides in the relationships and complementarities between multiple characteristics (Burton & Obel, 2004; Fiss, 2007; Ketchen, Thomas, & Snow, 1993; Miller, 1986; Siggelkow, 2002).

A sound understanding of drivers of firm performance, therefore, requires the acknowledgement and approach of the complexity of firms and their environment. The notion of organizational configurations expresses this idea by suggesting that “organizational structures and management systems are best understood in terms of overall patterns rather than in terms of analyses of narrowly drawn sets of organizational properties” (Meyer, Tsui, & Hinings, 1993, p. 1181).

A configurational approach comes, however, with several challenges. Theoretically, researchers have to take a novel approach because

different antecedents and contingencies may lead to multiple configurations with comparable outcomes. In configurational analysis, therefore, the focus shifts from the net effect of a single characteristic on performance to the analysis of multiple configurations associated with high performance. Empirically, configurational arguments also face the methodological challenges of modeling multiple, complex relationships between the elements of a configuration (Doty, Glick, & Huber, 1993; Fiss, 2007, 2011). Traditional multivariate analytical methods are frequently less adept at capturing complex systems of interdependencies among the elements of a configuration and outcome variables. Given these challenges, development of a theory on configurations and empirical tests of configurational approaches is unsurprisingly scarce in research on customer orientation, as they are in many other fields (Fiss, Cambré, & Marx, 2013; Vorhies & Morgan, 2003).

This study draws on extant work in strategy and marketing to develop hypotheses about the performance of four configurations of customer orientation with strategy types, alternative orientations (competitor and technology), and market conditions. To overcome the methodological challenges of testing the hypothesized configurations, the current research uses fuzzy set qualitative comparative analysis (fs/QCA), a set-theoretic configurational approach with the ability to handle high degrees of complexity in how different causal conditions combine to bring about an outcome (Ragin, 2000, 2008). Several recent studies suggest that applying QCA and fuzzy sets in organization and strategy settings can offer new insights into causally complex issues (Bell, Filatotchev, & Aguilera, 2013; Crilly et al., 2012; Fiss, 2007, 2011; Grandori & Furnari, 2008; Greckhamer, 2011; Greckhamer, Misangyi, Elms, & Lacey, 2008; Misangyi & Acharya, 2014; Woodside, 2013). In the current study, this approach allows the study of orientations, strategies, and environment interdependently. Rather than estimating the average net effect of a particular orientation or strategy, the study assesses how multiple, alternative configurations of orientation, strategy, and environment explain firm performance. The results shed light on the performance effects of customer orientation in relation to strategic choice and in relation to other orientations and their environmental contingencies.

2. A configurational approach to customer-oriented firms

Customer orientation is “the sufficient understanding of one’s target buyers to be able to create superior value for them continuously” (Narver & Slater, 1990, p. 21). The concept is at the heart of a market orientation because customer orientation best reflects the core of the marketing concept (e.g., Deshpandé et al., 1993; Han, Kim, & Srivastava, 1998; Ingenbleek, Tessema, & van Trijp, 2013). By firms’ organizing around the mission to create customer value, they generate higher levels of satisfaction, loyalty, innovation, and performance (Kirca et al., 2005).

Configurational approaches to understanding the performance effects of customer orientation are not common. Most prior work focuses on market orientation as an aggregate construct that also consists of competitor orientation and interfunctional coordination (Narver & Slater, 1990) or of components that concern the generation and dissemination of and responsiveness to market intelligence (Jaworski & Kohli, 1993), each of which includes an orientation toward customers and competitors (Kirca et al., 2005). Several studies considered the interaction effects of individual orientations separately from one another (Atuahene-Gima, 2005; Ingenbleek, Frambach, & Verhallen, 2010; Lukas, 1999; Olson et al., 2005; Slater, Hult, & Olson, 2007). While almost all studies use regression analysis or structural equation modeling for data analysis, some employ deviational profile analysis that assesses, by means of regression, which variables account for deviations from the ideal organizational configuration displayed by top-performing firms (Vorhies & Morgan, 2003). Although such correlation-based approaches are useful for examining the relative contribution of different elements, they face considerable challenges

in modeling the ways that causes may combine rather than compete in bringing about the outcome of interest (Fiss, 2007; Ragin, 2008; Woodside, 2013). In contrast, a set-theoretic approach is uniquely suited to analyzing this kind of complex configurational relationship because this approach explicitly focuses on combinations of attributes and allows for a sophisticated analysis of complex causal relationships (Ragin, 2000, 2008). Fs/QCA differs from conventional, regression-based approaches in that fs/QCA employs Boolean algebra, which allows an analysis of how different causal factors combine to bring about the outcome of interest (see Ragin, 2000, 2008; Schneider & Wagemann, 2012).

Shifting to a configurational understanding of market orientation seems warranted because increasing evidence shows that its individual components behave differently under different conditions (Atuahene-Gima, 2005; Gatignon & Xuereb, 1997; Homburg, Grozdanovic, & Klarmann, 2007; Lukas, 1999; Olson et al., 2005; Slater et al., 2007). A meta-analysis on market orientation’s components shows that the level of customer orientation affects competitor orientation’s effect (Grinstein, 2008), with a focus on “the short-term strengths and weaknesses and long-term capabilities and strategies of both the current and the key potential competitors” (Narver & Slater, 1990, pp. 21–22). In addition, researchers conceptualize technology orientation, which focuses on technological developments within the firm environment, as part of a firm’s strategic orientation that potentially interacts with other orientations (Gatignon & Xuereb, 1997; Voss & Giraud Voss, 2000; Zhou et al., 2005). Therefore, customer, competitor, and technology orientations are likely to have interdependent effects on firm performance.

Research in marketing further suggests that orientations have different effects on performance, depending on the market environments (Gatignon & Xuereb, 1997; Slater et al., 2007). Nevertheless, research largely fails to find a systematic relationship between environmental conditions and market orientation (Kirca et al., 2005). A possible explanation for these divergent findings may be that the complexity of interdependencies between strategic orientations and environmental conditions inhibits performance effects from surfacing. The current study thus considers orientations interdependently of the firm’s environment.

In addition, prior work also suggests that the performance effects of customer orientation depend on the strategy type (Matsuno & Mentzer, 2000). Both orientations and strategies are outward-oriented aspects of an organizational configuration, suggesting that a particular orientation helps the firm to adapt to its environment within the context of a particular strategic choice (Lukas, 1999; Olson et al., 2005; Slater et al., 2007). To examine the role of different strategies, this study follows prior work (e.g. Hambrick, 2003) by employing the strategy typology proposed by Miles and Snow (1978). According to Miles and Snow, *defenders* are organizations that have narrow product-market domains and that do not search outside their domains for new opportunities. Consequently, these organizations seldom need to make major adjustments in their technology, structure, or methods of operation. In contrast, *prospectors* are organizations with an external orientation that almost continuously search for market opportunities and compete by pioneering new products and developing innovative marketing techniques. Because those firms constantly engage in monitoring the external environment and developing alternative responses to emerging trends, those firms are the creators of change and uncertainty in an industry to which their competitors must respond. *Analyzers* take a position in between defenders and prospectors. They do not necessarily constitute a separate group “but rather tend to be ‘like’ prospectors... or ‘like’ defenders” (DeSarbo, Di Benedetto, Song, & Sinha, 2005, p. 62). Finally, *reactors* do not display consistent strategy choices; this study does not consider reactors, consistent with prior studies (Matsuno & Mentzer, 2000; Olson et al., 2005). Accordingly, this study focuses on the defender and prospector strategy types as the two ends of a continuum and hypothesizes four high-performing configurations of strategic orientations for

High performing businesses have a . . .		Strategy Type	
		Defender	Prospector
Market Dynamism	Low	Hypothesis 1: Customer Orientation	Hypothesis 2: Customer Orientation Technology Orientation
	High	Hypothesis 3: Customer Orientation Competitor Orientation	Hypothesis 4: Customer Orientation Competitor Orientation Technology Orientation

Fig. 1. Hypotheses for high-performance configurations of orientation, strategies, and environments.

defender and prospector type firms in both static and dynamic environments, respectively (Fig. 1).

2.1. Defender and prospector strategies in stable markets

Given defenders' narrow product scope for a limited customer mix, they engage cautiously in market penetration rather than seek opportunities outside their domain (McDaniel & Kolari, 1987; Miles & Snow, 1978). They aim to outperform competitors within their niche by offering higher quality, superior service, and lower prices to their customers (Hambrick, 1983). To be capable of doing so, defenders, more than the other strategy types, need to possess market-linking capabilities (Conant, Mokwa, & Varadarajan, 1990; DeSarbo et al., 2005). Defender firms are relatively competent in satisfying their limited choice of customers (McDaniel & Kolari, 1987). Their emphasis on understanding, satisfying, and keeping their current customers is high, resulting in a strong focus on customer satisfaction information (Hambrick, 1983). Given that defenders focus more on customer satisfaction information than on market research (McDaniel & Kolari, 1987), customer orientation should be their primary capability in relatively stable markets:

Hypothesis 1. : A defender strategy combined with customer orientation in stable markets will achieve high performance.

In contrast to defenders, prospectors actively seek new opportunities for market and/or product development, even outside their current product market domain. They offer a broad range of products to a broad target market (McDaniel & Kolari, 1987) and have relatively strong technology (DeSarbo et al., 2005) and information-processing capabilities (DeSarbo et al., 2005; McDaniel & Kolari, 1987). They focus less on customer satisfaction (Hambrick, 1983), but employ customer information to provide innovative solutions to current and new customers. Thus, customer orientation enables prospectors to engage in superior competence exploration, resulting in increased radical innovation performance (Atuahene-Gima, 2005). In addition, their capabilities in terms of (information) technology (DeSarbo et al., 2005), in particular, enable prospectors to benefit from customer orientation, as they can utilize their customer base information (Morgan, Anderson, & Mittal, 2005), which enables them to optimize value appropriation and enhance performance. High-performing prospectors should, therefore, be customer-oriented.

For a prospector to be capable of employing a strategy of driving a market, that prospector needs to compete with cutting-edge solutions to market needs. This requires profound knowledge of new and

upcoming opportunities to satisfy non-manifested needs. Technology is the major force capable of doing so. Therefore, for prospectors to be capable of driving markets and shaping future demand, they must sense and respond to new technology (Srinivasan, Lilien, & Rangaswamy, 2002). In stable markets, prospectors that combine customer orientation with technology orientation should thus exhibit high performance:

Hypothesis 2. : A prospector strategy combined with customer and technology orientation in stable markets will achieve high performance.

2.2. Defender and prospector strategies in dynamic markets

If firms operate in a relatively dynamic market environment, a combination of customer and competitor orientation becomes more important for firm performance to effectively face an evolving mix of customers and aggressive competitors (Jaworski & Kohli, 1993; Slater & Narver, 1994). As Kohli and Jaworski (1990) report:

"Several executives noted that the degree of competition in an industry has a straightforward bearing on the importance of a market orientation. Strong competition leads to multiple choices for customers. Consequently, an organization must monitor and respond to customers' changing needs and preferences to ensure that customers select its offerings over competing alternatives." (p. 14).

Thus, competitor dynamics, in particular, may force the firm to be customer and competitor oriented. Both orientations contribute to positioning the offering more effectively, consistent with customer needs, and distinctively from the competition. Working interdependently, these orientations will help firms identify and target market segments that fit with the organization's product offerings and that are competitively interesting (Day, 1994). In addition, these orientations will enable a competitive strategy of being "second-but-better" (Frambach, Prabhu, & Verhallen, 2003; Grinstein, 2008) when competitors introduce new attributes, thus directing their attention to ways of beating the competition and increasing market share (Armstrong & Collopy, 1996). Indeed, companies with distinctive benchmarking capabilities employ both their customer-learning and competitive-intelligence skills to outperform companies (Vorhies & Morgan, 2005). This is important for defender firms to defend their niche as well as for prospectors to direct their market development activities most effectively. Thus, being customer and competitor oriented in relatively dynamic markets is important for defenders and prospectors alike.

While customer and competitor orientations are important for both defender and prospector strategies in dynamic environments, the role of technology orientation is likely to differ across the two strategy types. Specifically, defender-type firms engage in very limited new product development. Consequently, they are less likely to benefit from leveraging customer orientation in combination with technology orientation (McDaniel & Kolari, 1987). Technology orientation may increase firms' cost level instead, resulting in less-efficient operations and, thus, inferior performance, suggesting the following:

Hypothesis 3. : A defender strategy combined with customer and competitor orientations in dynamic markets will achieve high performance.

Finally, as prospectors seek ways to drive markets and to diversify, they are likely to be at risk of overlooking opportunities or threats from outside their current business domain when competitor and customer orientation primarily lead prospectors' focus in market-changing situations. Atuahene-Gima (2005) finds that competitor orientation, more strongly than customer orientation, stimulates competence exploitation, which may hinder firms from exploring new competencies and developing radical innovations (Levinthal & March, 1993). Thus, for prospector firms, their increased focus on exploitation may mitigate the positive effect of being able to leverage their

competitive offerings more effectively by combining customer orientation with competitor orientation. Technology orientation, in addition to the prospector's customer and competitor orientations, is likely to focus these firms more on exploration than exploitation. Technology-oriented firms may overcome the myopia induced by a strong orientation toward customers and competitors (Christensen & Bower, 1996). Instead, the customer orientation of these firms may help them improve the customer benefits of technological innovations (Chandy & Tellis, 1998). Accordingly, Zhou et al. (2005) find that market-oriented firms are more successful in creating technology-based innovation. Under conditions of changing markets, prospectors that perform highly should combine customer and competitor orientations with technology orientation:

Hypothesis 4. : A prospector strategy combined with customer, competitor, and technology orientations in dynamic markets will achieve high performance.

2.3. A formal statement of the theoretical arguments

One key advantage of using set-theoretic analysis is that this approach allows for the formal expression of theoretical statements using Boolean notation, and researchers can later evaluate such formal expressions against observed configurations. In the current study, the outcome of interest is achieving high performance (Y), and the conditions of interest are customer orientation (A), competitor orientation (B), technology orientation (C), defender strategy (D, with “d” indicating prospector strategy), and competitor dynamisms (E, with “e” indicating low dynamism). Using this notation, where the “+” sign presents the logical “or” and the arrow is the logical implication sign, the set of theory-based predictions' (T) expression is as follows:

(T) : ADe + ACde + ABDE + ABCdE → Y.

3. Methods

3.1. Data collection procedure and sample

The development of the sample frame for this study uses a state-of-the-art commercial list of manufacturing companies and service providers in the Netherlands. Managers involved in and knowledgeable about the strategy of their businesses are potential respondents, resulting in a sampling frame of 275 company informants, who were approached by telephone with a request to participate in the study. Participants received confirmation of confidentiality, a report with the results, and an invitation to a seminar at which the results would be presented. Subsequent to two follow-up reminders, 126 participants sent the questionnaire, leading to a response rate of 45.8%. ANOVA tests that compared early, middle, and late respondents (Armstrong & Overton, 1977) tested non-response bias of all the variables included in this study. None of the results of these tests was significant.

The final sample contains 25 manufacturers of industrial durables (20%), 25 manufacturers of industrial commodities (20%), 42 providers of industrial services (33%), 15 manufacturers of consumer durables (12%), 10 manufacturers of consumer commodities (8%), and 9 providers of consumer services (7%). With respect to the size of the firms in the sample, 38% have fewer than 50 employees, 26% have 50–100 employees, 23% have 100–500 employees, and 13% have more than 500 employees.

3.2. Measurement

This study measures strategy type using a self-typing approach, comparable to the format of Shortell and Zajac's (1990) instrument. The four descriptions of strategy types are based on those provided by James and Hatten (1995), and Matsuno and Mentzer (2000).

Respondents received the four descriptions in the sequence provided by Shortell and Zajac, including options in between defender and analyzer and in between analyzer and prospector (see Appendix). A 5-point scale rates the responses, with defenders' being given the lowest score of 1 (12 in the sample, 9.5%); analyzers, the medium score of 3 (34 in the sample, 12%); and prospectors, the highest score of 5 (18 in our sample, 14.3%), whereas the score between defenders and analyzers is 2 (30 in the sample, 23.8%), and the score between analyzers and prospectors is 4 (27 in the sample, 21.4%). As noted, this study follows Matsuno and Mentzer in excluding firms that self-identified as reactors.

The measurement of other constructs included in the questionnaire also follows existing research. The study uses 10 interviews in various companies to evaluate the questionnaire on interpretability and ease to complete. Several items had slight modifications based on managers' answers. Measurement of customer and competitor orientation used scales developed by Narver and Slater (1990). The technology orientation scale (alpha = .87) consists of four items derived from Gatignon and Xuereb (1997) and Han, Kim, and Kim (2001). Financial performance (alpha = .95) is a self-report, two-item measure of profitability and return on assets relative to competition. The study measures competitor dynamism using three items adapted from Homburg and Pflesser (2000) (alpha = .83). The number of employees determines firm size. With the exception of firm size, measurement of all items used 5-point Likert-type scales. The appendix presents the items.

3.2.1. Reliability

For measurement validation, this study used conventional methods, such as coefficient alpha, item-to-total correlations, and exploratory factor analysis (Churchill, 1979), to select items included in confirmatory factor analyses (Gerbing & Anderson, 1988). Confirmatory factor analysis in LISREL shows that a six-factor model (including all multi-item scales) has a good fit $t(\chi^2(196) = 253.29, p < 0.001, RMSEA = 0.048, CFI = 0.961, NNFI = 0.954)$, with all items loading significantly on the predicted latent factors, and composite reliabilities 0.74 (competitor orientation) and .94 (firm performance). This model does not satisfy the rule of a 5-to-1 ratio of sample size to parameter estimates in confirmatory factor analysis (Kline, 1998); however, checking the results in a series of two-factor models showed that the factor loadings are robust.

3.2.2. Validity

The assessment of discriminant validity of the measures followed the procedure advised by Bagozzi and Philips (1982) and Anderson (1987) and the examination of pairs of constructs in a series of two-factor confirmatory factor models. Each model was estimated twice, once constraining the correlation between the two latent variables to 1.0 and once releasing this parameter. These analyses include this construct for strategy type as a factor represented by a single item on the defender–analyzer–prospector dimension. For all models under study, chi-square values were significantly lower for the released models, indicating discriminant validity. Tables 1 and 2 present the properties of measures and the correlation matrix.

3.3. Calibration and analysis

Calibrating the measures is the first step for the fuzzy set analyses. Measures' transformation into sets was relatively unproblematic and employed the direct method described by Ragin (2008). Regarding strategy type, a fuzzy set measure assessed the grade of membership in the set of firms that presented a defender or prospector strategy. The resulting 5-value fuzzy set's values for full membership, crossover point, and full non-membership were 1, 3, and 5, respectively. Because defender and prospector strategies were the end points of a continuum, full membership in the set of firms with a defender strategy implied full non-membership in the set of firms with a prospector strategy. For the

Table 1
Properties of purified measures.

Variable	No. of Items	Range ^a	Mean	Standard deviation	Alpha	Source
1. Strategy type		1–5	3.07	1.21		Shortell and Zajac (1990)
2. Customer orientation	5	1.80–5	3.82	.75	.83	Narver and Slater (1990)
3. Competitor orientation	4	1–5	3.48	.86	.79	Narver and Slater (1990)
4. Technology orientation	4	1–5	3.25	.99	.87	Gatignon and Xuereb (1997)
5. Financial performance	2	1–5	3.52	.98	.95	Homburg and Pflesser (2000)
6. Competitor dynamism	3	1–5	2.90	.93	.83	Gatignon and Xuereb (1997)
7. Firm size		16–10,000	345.43	1116.06		

Note.

^a The possible range for all measures, except firm size, was 1–5.

other measures, a value of 5 indicated full membership, whereas a value of 1 indicated full non-membership, and a value of 3 indicated the crossover point (e.g., a score of 5 on customer orientation indicates full membership for that variable; similarly, a score of 5 on performance indicates full membership in the high-performance category). Finally, the size measure drew on the number of employees and followed OECD employment classes, with 1000 or more employees' indicating full membership in the set of large firms and 20 or fewer employees' indicating full non-membership, with 250 employees as the crossover point.

After calibrating the measures, a test for necessity showed that no condition passed the consistency threshold of 0.90 for a necessary condition. The truth table had 2^k rows, where k is the number of causal conditions used in the analysis, and each row in the table corresponds to a configuration of conditions. The minimum number of cases is three, and the minimum acceptable raw consistency used is 0.80 (Ragin, 2008). Estimating a series of solutions with acceptable proportional reduction in consistency (PRI) values that exceeded 0.75 served to determine an appropriate cutoff point for our consistency measure. A close examination showed that further increasing acceptable PRI values led to significant decreases of model coverage without resulting in substantive increases in solution consistency. Fig. 2 shows the solution that presents the best tradeoff between consistency and coverage (raw consistency cutoff 0.93, PRI consistency cutoff 0.78). All analyses used the fs/QCA 2.5 software package.

4. Results

Fig. 2 presents the results of the fuzzy set analysis and shows the configurations that are sufficient for achieving high performance using the notation introduced by Ragin and Fiss (2008). In this notation, large circles indicate core conditions and small ones, peripheral (or contributing) conditions, while full circles denote conditions that must be present, and crossed-out circles represent conditions that must be absent. Blank spaces indicate a “don't care” situation, where the condition may be present or absent. The figure provides coverage scores, a measure of the importance of a configuration that indicates how many cases take this path to the outcome.

Table 2
Correlation matrix of measures.^a

Variable	(1)	(2)	(3)	(4)	(5)	(6)
1. Strategy type						
2. Customer orientation	-.16					
3. Competitor orientation	.14	.35				
4. Technology orientation	.29	.32	.30			
5. Financial performance	-.19	.33	.08	.17		
6. Competitor dynamism	-.02	.24	.25	.22	.12	
7. Firm size	.19	-.00	-.02	-.02	.09	.10

Note.

^a Correlations above .17 are significant at p < .05.

Regarding overall coverage, the intermediate solution accounts for 66% of membership in the outcome and, thus, presents acceptable fit. Further, all configurations show high consistency values between 0.91 and 0.94, with the overall solution consistency at 0.90. The intermediate solution consists of four configurations, whereas the parsimonious solution consists of three configurations (consistency values between 0.79 and 0.88, solution consistency 0.82, and solution coverage 0.78).

As for the hypothesized configurations, Configuration 1 combines a defender strategy with a stable environment, as indicated by the absence of competitor dynamism. In this situation, the presence of customer orientation is also part of this recipe, but no other orientation is necessary. Thus, a defender that avoids dynamic markets (in the form of competitor dynamism) may need no other orientation apart from customer orientation, a finding largely consistent with Hypothesis 1. In fact, customer orientation and the absence of other orientations are core conditions for this configuration, whereas not being large is a peripheral or supporting condition.

Although these findings seem consistent with Hypothesis 1, Hypothesis 2 receives only partial support. Hypothesis 2 suggests that prospectors in a stable environment that combine customer and technology orientations also would show high performance. However, Configuration 4 indicates that prospectors that operate in either stable or dynamic environments show a combination of customer

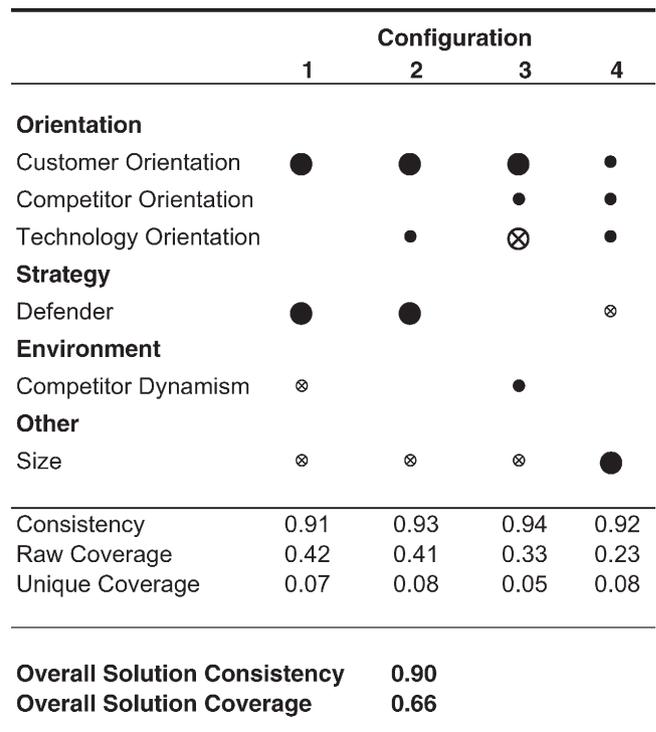


Fig. 2. Configurations for achieving high performance.

orientation with both competitor orientation and technology orientation. This configuration also indicates large size as a core condition.

The findings also provide partial support for **Hypothesis 3**, which holds that defenders in dynamic markets would be high performing if they present customer and competitor orientations. Configurations 2 and 3 partly fit this profile, with Configuration 2 combining a defender strategy with customer and technology orientations and without a large size, while both competitor orientation and competitor dynamism are set to “don't care.” Configuration 3 combines customer and competitor orientations but no technology orientation with competitor dynamism and no large size and allows for either a defender or prospector strategy. Finally, the results in Fig. 2 provide considerable support for **Hypothesis 4**, which holds that prospectors in dynamic environments would combine all three orientations. As Configuration 4 shows, prospectors that are large combine all three orientations and may operate in either stable or dynamic environments. Configuration 3 also suggests, however, that small firms with either prospector or defender orientations in dynamic environments combine only customer and competitor orientations but not technology orientation, suggesting a more complex pattern than that outlined by **Hypothesis 4**.

The findings appearing in Fig. 2 provide additional insight into the nature of successful configurations. First, customer orientation is part of all paths to high performance. In contrast, the presence of competitor orientation is part of Configurations 3 and 4 and set to either present or absent for Configurations 1 and 2. Only for technology orientation is absence part of a high performing configuration. This is not to say that customer orientation is less contingent on the other two orientations. However, the presence, not the absence, of customer orientation relates to high performance, even if customer orientation does not achieve the status of a necessary condition.

In QCA, conducting additional analyses of the inverse of the outcome to examine which configurations might consistently lead to the absence of high performance is good practice. The ability to conduct such an analysis is an important advantage of QCA, in that such analysis points to the notion of causal asymmetry (Ragin, 2008), where the causal conditions that lead to the presence of an outcome may frequently be quite different from those conditions that lead to the absence of the outcome. The current study further examines both the absence of high performance and the presence of low performance. However, the analyses indicate that no configurations have an acceptable level of consistency according to the PRI values. This finding indicates the presence of causal asymmetry, with several configurations being sufficient for high performance but no configuration being consistently associated with the absence of high performance or low performance.

4.1. Evaluating the theoretical arguments

Ragin (1987) suggests an alternative and, in some ways, superior way of evaluating theoretical arguments and capitalizes on their expression in Boolean terms. Specifically, the agreement between theoretical prediction (T) and obtained results (R') can be examined through their intersection. Again using the notation introduced in Section 2.3 above, and focusing on the subset of hypothesized combinations leads to the following expression:

$$\begin{aligned} (T)(R') &= (Ade + ACde + ABDE + ABCdE)(ADef + ACDf + ABcEf + ABCdF) \\ &= (ADef + ABCdF + ABDEf). \end{aligned}$$

This approach allows a comparison of the configurations at the intersection to the configurations predicted by the hypotheses. Regarding **Hypothesis 1**, theorizing ADe leads to ADef, which is a proper subset of the hypothesized configuration that adds only not being large (f) as a condition. This result essentially confirms **Hypothesis 1**. Regarding **Hypothesis 2**, theorizing ACde leads to ABCdF, which

adds competitor orientation and being large while indicating that environmental dynamism does not matter. For **Hypothesis 3**, theorizing ABDE yields ABDEf, again a proper subset that adds not being large, and, for **Hypothesis 4**, theorizing ABCdE yields ABCdF, which again indicates that prospectors that combine all three orientations with being large can operate in both stable and dynamic environments.

5. Discussion

The current study sheds light on the benefits of customer orientation and the contingent role of market orientation by showing the complex configurations of orientations, strategies, and environments associated with high-performing businesses. Key findings include:

- Customer orientation is consistently part of high-performance configurations (cf **Hypothesis 1–Hypothesis 4**);
- For defender firms that operate in lowly competitive markets, customer orientation is the dominant orientation for high performance (cf **Hypothesis 1**);
- For large prospector firms, all three orientations are part of a high-performance configuration (cf **Hypothesis 4**).

The findings of the current study suggest that customer orientation is part of both high-performance defender and prospector configurations that operate in either stable or dynamic environments. Further, depending on the market conditions, configurations of customer orientation with either competitor and/or technology orientations characterize high-performing companies. Taken together, the findings of this study suggest that the presence of customer orientation is a stronger condition for high performance than is technology orientation.

The results thus provide support for the hypothesis for defenders in stable market conditions but show a more fine-grained picture than hypothesized for prospectors and dynamic environments. This picture suggests that certain configurations of high-performance prospectors can operate in both dynamic and stable markets.

The importance of technology orientation for defenders in dynamic markets may lead them to operate outside their narrow product-market domain and is an unexpected finding. However, interaction of customer orientation with technology orientation may enable more adequate responses to competitive new product introductions that are likely to result from intense competition. Consistent with this, Dvir, Segev, and Shenhar (1993) find that defenders “invest in new technologies only when they are convinced of their potential contribution to maintaining competitive advantage” (p. 160).

5.1. Limitations

This research has some noteworthy limitations. First, the findings draw on a single study. The robustness of the results reported here, therefore, requires replication studies. Further, the current study uses subjective measures rather than actual performance data to assess performance outcomes. Although this is a limitation, some studies report such measures to be satisfactory reflections of actual firm performance (Dess & Robinson, 1984; Gatignon & Xuereb, 1997). In addition, informants provide the data. Although multiple informants may enhance reliability of the data (Huber & Power, 1985), single-informant studies are common and effective, and extensive tests for common method bias in the present study do not suggest this to be a major problem.

5.2. Implications

This study contributes to the strategy and marketing literature by adopting a configurational perspective on firm orientation, strategy, and the environment, thus offering a fresh perspective on the debate regarding the benefits of customer orientation. The research finds convincing evidence for a dominant effect of customer orientation on firm performance for firms that pursue alternative yet equifinal strategies in varying environmental conditions that employ different resource stocks (i.e., orientations). This finding departs from evidence of previous studies that find customer orientation to be beneficial only for certain strategy types (Lukas, 1999; Olson et al., 2005; Slater et al., 2007) or under certain conditions (Gatignon & Xuereb, 1997). Current research sees firms increasingly as resource-integrators that innovatively create value by enabling access to and integration of resources (Achrol & Kotler, 2012). Theories that reason from a configurational perspective acknowledge that firms may develop different successful resource combinations, thus focusing on identifying different equifinal configurations. This study shows that an existing mature body of evidence on a key marketing concept (i.e., market orientation and customer orientation) provides an excellent starting point for a configurational approach that views well-established concepts in a new light. In using fs/QCA, the current research demonstrates the value of employing a novel methodology that is particularly suitable to modeling the complex, multiple interactions inherent in configurational theories in general and the marketing strategy literature in particular.

This study further contributes to the market orientation literature in two important ways. First, consistent with more recent literature (Homburg et al., 2007; Slater et al., 2007), the study points at the importance of distinguishing between alternative orientations within the market orientation construct. In contrast to previous studies, however, the current study investigates the effect of alternative orientations not only within configurations of strategy types (Lukas, 1999; Olson et al., 2005; Slater et al., 2007) and market conditions (Gatignon & Xuereb, 1997; Olson et al., 2005; Slater et al., 2007) but also within configurations of alternative orientations. This approach departs from research on organizational configuration that addresses the performance effect of either market orientation as a single construct (Kirca et al., 2005; Matsuno & Mentzer, 2000; Morgan, Vorhies, & Mason, 2009) or of alternative orientations separately (Atuahene-Gima, 2005; Gatignon & Xuereb, 1997; Lukas, 1999; Olson et al., 2005; Slater et al., 2007).

Second, although much previous research on the performance effect of market orientation considers the role of the business environment, the results are mixed. Many studies report no significant effects (e.g., Atuahene-Gima, 2005; Kirca et al., 2005; Lukas, 1999; Morgan et al., 2009). The findings of the present study show that competitor dynamism interacts with both strategy type and the firm's resource configuration (i.e., orientations). Therefore, the effect of market conditions on firm performance may be much more subtle than expected and captured. More broadly, this kind of complex pattern of relations may account for the ambiguity of research findings on the effects of environmental contexts reported in previous literature, underscoring the need to complement our current, primarily correlation-based methodological toolkit with the kind of set-theoretic, configurational approach employed here.

Appendix A. Operationalization of constructs

Strategy type (adapted from James & Hatten, 1995; Matsuno & Mentzer, 2000; and Shortell & Zajac, 1990).

Before answering the question, please read the following four descriptions of organizations:

- (1) We attempt to locate and maintain a secure niche in a relatively stable product or service area. We try to offer a more limited range of products or services than do our competitors, and we try to protect our domain by offering higher quality, superior service, lower prices, and so forth. We may not be at the forefront of developments in the industry but attempt to concentrate instead on doing the best job possible in a limited area.
- (2) We attempt to maintain a stable, limited line of products or services, while, at the same time, trying to move quickly to follow a carefully selected set of the more promising new developments in the industry. We are seldom "first in" with new products or services, but, by carefully monitoring the actions of major competitors in areas compatible with our stable product market base, we try to be "second in" with a more cost-efficient product or service.
- (3) We try to operate within a broad product-market domain that undergoes periodic redefinition. We want to be "first in" with new products and market areas even if not all of these efforts prove to be highly profitable. We try to respond rapidly to early signals concerning areas of opportunity, and these responses have often led us to a new round of competitive actions.
- (4) We are not able to follow a consistent product-market orientation. We are not able to be as aggressive in maintaining established products and markets as are some of our competitors, nor are we willing to take as many risks as other competitors. We are forced to respond to environmental pressures.

Assess, on the basis of the descriptions above, which description fits your business unit best (please indicate only one answer):

- Description 1 fits my business unit best.
- Description 1 fits my business unit best, but description 2 is also applicable.
- Description 2 fits my business unit best.
- Description 3 fits my business unit best, but description 2 is also applicable.
- Description 3 fits my business unit best.
- Description 4 fits my business unit best.

Multi-item measures and factor loadings

<i>Customer orientation</i> (adapted from Narver & Slater, 1990)			
Rate the extent to which you agree or disagree with the following statements on how your organization generally deals with customers.	Measurement model	Single-method factor model	
1. We determine our objectives on the basis of customer satisfaction.	.549	.551	
2. After-sales service occupies an important position in our organization.	.638	.932	
3. We understand customer needs.	.782	.682	
4. The creation of customer value may be seen as a daily activity.	.836	.445	
5. We are strongly committed to the customer.	.741	.394	
<i>Competitor orientation</i> (adapted from Narver & Slater, 1990)			
Rate the extent to which you agree or disagree with the following statements on how your organization generally deals with competitors.	Measurement model	Single-method factor model	
1. Salespeople continuously share competitor information.	.596	.654	
2. We respond rapidly to competition.	.779	.719	
3. Our top managers discuss competitors' strategies.	.674	.681	
4. We target potential competitive advantages.	.775	.715	

Appendix A (continued)

Multi-item measures and factor loadings		
<i>Technology orientation</i> (adapted from Gatignon & Xuereb, 1997 [item 2] and Han et al., 2001 [other items])		
Rate the extent to which you agree or disagree with the following statements on how your organization generally deals with technology.		
1. We use the latest technologies in new product/service development.	.800	.763
2. We strive for technological breakthroughs.	.895	.927
3. We systematically scan for new technologies inside and outside the industry.	.798	.760
4. Significant portions of profit are reinvested in R&D.	.673	.637
<i>Competitor dynamism</i> (adapted from Homburg & Pflesser, 2000)		
Rate the extent to which the following changes occur in the market on which you launched the product/service.		
1. Changes in products offered by your competitors	.704	.713
2. Changes in sales strategies by your competitors	.933	.909
3. Changes in sales promotion/advertising strategies of your competitors	.730	.724
<i>Firm performance</i> (adapted from Homburg & Pflesser, 2000)		
Over the last year, relative to your competitors, how has your business unit performed with respect to...		
1. Profitability?	.950	.883
2. Return on assets?	.948	.908

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