WHEN DOES CUSTOMER ORIENTATION PAY OFF?

A CONFIGURATIONAL ANALYSIS OF THE PERFORMANCE EFFECTS
OF ORIENTATIONS, STRATEGIES, AND MARKET CONDITIONS*

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Abstract
The benefits and drawbacks of customer orientation are heavily debated in the strategic management literature. This study uses a configurational approach to analyze the constellations of different strategic orientations (competitor and technology orientations), strategy types (defender and prospector), and market conditions (competitor dynamism and demand uncertainty) in which a customer orientation leads to superior performance. Results suggest that for defenders a customer orientation is the single most important resource for achieving superior performance, whereas it is a key element of other resource constellations for prospectors. The results thus confirm arguments that stress the importance of customer orientation, but they refine insights by specifying the complementary resources in constellations that yield superior performance.
INTRODUCTION

Customer orientation, defined as “the sufficient understanding of one’s target buyers to be able to create superior value for them” (Narver and Slater, 1990: 21), is a key focus for any firm relating to its market (Deshpandé, Farley, and Webster, 1993; Kohli and Jaworski, 1990). It represents an organizational resource (Hunt and Morgan, 1995) that enables firms to satisfy customers’ needs and is reflected in capabilities such as market sensing and customer linking (Day, 1994). As such, customer orientation has been shown to be a particular important driver of innovation (Han, Kim, and Srivastava, 1998) and, as part of a market orientation, of firm performance (Cano, Carrillat, and Jaramillo, 2004; Kirca, Jayachandran, and Bearden, 2005). However, the beneficial role of customer orientation has been heavily debated in the strategy literature (e.g., Danneels, 2003; Hult, Ketchen, and Slater, 2005; Slater and Narver, 1998) and is not without controversy. Findings from previous studies suggest that enhancing customer orientation may cause firms to focus on their customers too much, thus overlooking newly emerging customer needs (Christensen and Bower, 1996), decreasing the novelty of their products (Im and Workman, 2004), decreasing their ability to develop market-breakthrough innovations (Zhou, Yim, and Tse, 2005), and reducing firm performance (Voss and Giraud Voss, 2000). The effectiveness of a customer orientation is also found to depend upon environmental conditions. Especially in markets with low demand uncertainty, customer orientation is reported to fail to enhance innovation performance (Gatignon and Xuereb, 1997). These findings trigger the important question of when investing in an organization’s customer orientation is indeed a beneficial thing to do. Because most previous studies considered customer orientation as part of the broader market orientation construct, it remains unclear whether customer orientation per se has a consistently beneficial
effect on firm performance. This paper examines the effect of customer orientation on performance within the larger context of the firm’s strategy type, its strategic orientation, and its environmental context.

Within the strategy literature, two alternative theoretical perspectives have aimed to shed light on the performance effect of customer orientation. On the one hand, researchers working within a contingency framework suggest that firm performance depends upon the degree to which the organization “fits” with its environment (Venkatraman, 1989). To the extent that a particular orientation helps the firm to adapt to its environment within the context of a particular strategic choice (Lukas, 1999) or contributes to effectively implementing the chosen strategy (Homburg, Krohmer, and Workman, 2004), the organization will be more effective. Accordingly, studies on the performance effect of market orientation find this relationship to be moderated by the firm’s strategy type (Matsuno and Mentzer, 2000; Olson, Slater, and Hult, 2005). This research thus suggests that the benefits of a firm’s customer orientation depend upon its strategic choice.

Alternatively, researchers drawing upon a resource-based perspective point out that “firm-specific capabilities and assets ... [are] ... fundamental determinants of firm performance” (Teece, Pisano, and Shuen, 1997). Moreover, “where a firm can go is a function of its current position and the paths ahead” (Teece et al., 1997). This path dependency of resources implies that the performance effect of specific resources (such as those related to a customer orientation) depends upon prior allocations to a firm’s resource stock. For example, organizations that have invested heavily in capabilities such as market sensing and CRM, but not in competitor intelligence-related capabilities such as benchmarking may benefit differently from their customer orientation capabilities than firms that have developed both strong customer and
competitor orientations. Given interactions between both orientations, the latter firms may employ their focus on customers in a different way than the former. Furthermore, the specific configuration of resources is an important factor because some combinations of resources may be more beneficial than others given their interacting effect on performance (Menguc and Auh, 2006; Song, Droge, Hanvanich, and Calantone, 2005; Vorhies and Morgan, 2005). The resource-based approach thus suggests that the effect of a capability, such as a customer orientation, will depend both on the firm’s prior resource investments into this capability and the interaction of this capability with other resources.

The objective of this paper is to further our understanding of the effectiveness of a customer orientation by accounting for both the effect of strategy type and alternative orientations reflective of a firm’s resources. By doing so, we advance insight into the performance effects of customer orientation through adopting a conceptual approach that integrates both a contingency perspective and a resource-based perspective. The configurational approach we take builds upon the notion 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, and Hinings, 1993: 1181). The central notion underlying this approach is that firms are best understood as complex systems of interdependent characteristics in which fit and competitive advantage frequently rest not on a single attribute but instead reside in the relationships and complementarities between multiple characteristics (e.g., Burton and Obel, 2004; Ketchen, Thomas, and Snow, 1993; Miller, 1986; Siggelkow, 2002).

In taking a configurational approach, we apply a method that will enable us to examine configurations of multivariate relationships beyond the descriptive level. As
several authors have noted, configurational arguments—while theoretically attractive—face methodological challenges of modeling multiple, complex interactions between the elements of a configuration (Doty, Glick, and Huber, 1993; Fiss, 2007). To overcome these challenges, we employ a fresh methodological approach: fuzzy set qualitative comparative analysis (fsQCA), a set-theoretic, configurational method based on Boolean algebra with the ability to handle high degrees of complexity in how different causal conditions combine to bring about an outcome (Ragin, 2000, 2008). Our current study thus also offers a methodological contribution by showing how our novel approach is able to go beyond the insights that could be offered when using standard linear interaction approaches or cluster analysis to test configurational arguments (e.g., Fiss, 2007).

In placing the central focus of our study on the role of customer orientation, our study acknowledges that the focus on customers is at the core of a market orientation (Deshpandé et al., 1993) and plays a central role in understanding firm performance (Kyriakopoulos and Moorman, 2004). It also responds to recent calls for separate examination of market orientation components rather than the aggregate construct (Atuahene-Gima, 2005: 79; Homburg, Grozdanovic, and Klarmann, 2007: 30). Managerially, this research thus addresses the important questions of whether and when customer orientation is indeed effective (Dobni and Luffman, 2003: 583; Lukas, 1999: 155). Based upon the configurational approach adopted in this study, we show that customer orientation plays a strikingly consistent vital role in the resource configurations of businesses pursuing different strategy types and operating under very different environmental conditions.

In the next section, we review studies that focus on the interaction between customer orientation and other aspects of the organization or environment. Against
the background of this literature, we discuss the specific contributions of the present study. Next, we present our research framework and develop hypotheses, followed by a discussion of the methods used to test them. We then present and discuss our findings and draw conclusions based on them.

LITERATURE REVIEW AND CONTRIBUTIONS

Table 1 presents an overview of studies explaining performance as related to a customer (or market) orientation. Several conclusions emerge from a review of this research, based on which we motivate the contributions of the present study.

[Table 1 here]

Studies aimed at explaining interaction effects of market (or strategic) orientation and strategy type on performance focused either on market orientation as an aggregate construct (Kyriakopoulos and Moorman, 2004; Matsuno and Mentzer, 2000) or considered interaction effects of individual orientations separately from one another (Atuahene-Gima, 2005; Lukas, 1999; Olson, Slater, and Hult, 2005; Slater, Hult, and Olson, 2007). The effect of market orientation, including customer orientation, on performance has been the focus of many studies, which are synthesized in several meta-analyses (Cano, Carrillat, and Jaramillo, 2004; Grinstein, 2008; Kirca, Jayachandran, and Bearden, 2005). Whereas most of the literature approaches market orientation as a theoretically predefined configuration of resources, there is increasing evidence that its individual components (customer and competitor orientations) behave differently under different conditions (Atuahene-Gima, 2005; Gatignon and Xuereb, 1997; Homburg et al., 2007; Lukas, 1999; Olson, Slater, and Hult, 2005; Slater, Hult, and Olson, 2007). Moreover, a recent meta-analysis on market orientation distinguishing between the effects of its components
found that the effect of competitor orientation is affected by the level of customer orientation (Grinstein, 2008). However, as concluded above, previous research focusing on the performance effect of individual orientations has not considered potential interaction effects between alternative orientations. Given the indicated importance of doing so, and consistent with a configurational perspective that resource benefits depend upon other available resources (i.e., orientations), we consider the effect of customer orientation within different resource configurations. We thus add to the debate on customer orientation’s contribution to key outcomes (Connor, 1999; Hult, Ketchen, and Slater, 2005: 1179; Slater and Narver, 1998).

The market orientation literature has shown effects of moderating variables regarding strategy type and business environment, indicating that the market-oriented resource configuration may have different effects on performance when different strategies are pursued (e.g., Matsuno and Mentzer, 2000; Olson, Slater, and Hult, 2005) or when the firm operates in different market environments (Gatignon and Xuereb, 1997). However, surprisingly few studies report upon significant moderating effects of firm environment. Similarly, in their meta-analysis on the performance effect of market orientation, Kirca et al. (2005) do not find systematic moderating effects of environmental contexts.

A possible explanation for these divergent findings may be that the complexity of interdependencies between organizational variables (such as strategic orientations and strategy type) and environmental conditions inhibit effects from surfacing. In addition, research methods that are generally employed to analyze data, such as (moderated) regression analysis and structural equation modeling, may be insufficiently capable of tapping higher-level interaction effects. Our study therefore employs set-theoretic methods that are particularly suited to investigating the
performance effects of organizational configurations (e.g., Fiss 2007, 2009; Grandori and Furnari, 2008; Greckhamer et al., 2008; Kogut, MacDuffie, and Ragin, 2004). In this respect, our study considers the effects of alternative strategy types and business environment conditions, and so it stretches the ideas that different resource configurations with customer orientation may lead to high performance and that performance thus emerges out of the complex and multiple interaction of strategy, resources, and environmental contexts.

Table 1 shows that almost all studies use regression analysis and structural equation modeling for data analysis. Some employ deviantional profile analysis that assesses by means of regression which variables account for deviations from the ideal organizational configuration displayed by top-performing firms (Vorhies and Morgan, 2003). An important implication of the methods used by extant research is the assumption that the configurations that lead to superior performance are the exact opposite of those that lead to inferior performance. Our study releases this assumption by using set-theoretic methods (Fiss, 2007; Ragin, 2000, 2008). These methods differ from conventional, regression-based approaches in that they employ Boolean algebra that allows for an analysis of how different causal factors such as orientations, resources, and environments combine to bring about the outcome of interest. Because of their focus on the configuration nature of causality, the approach we employ here fits particularly well with a focus on multi-way interactions and allows for a sophisticated assessment of just how different causes combine to affect performance.

Moreover, our methodology enables us to assess which organizational configurations show equally high performance, thus allowing us to examine the presence of equifinality with respect to performance—a situation in which several configurations can exhibit equally high performance in a given environment (e.g.,
Doty, Glick, and Huber, 1993; Gresov and Drazin, 1997). The notion of equifinality has recently been receiving increasing attention in the management literature (e.g., Payne, 2006; Fiss, 2007; Marlin et al., 2007) and offers considerable promise for the literature on strategic configurations. Rather than assuming that one single configuration is superior (as implied by the use of methods displayed in Table 1), we assess whether multiple, alternative configurations of orientation, strategy, and environment explain equally high firm performance and whether multiple, alternative configurations explain equally poor performance, independently from one another. In the next section, we elaborate on the conceptual model guiding our research.

**RESEARCH FRAMEWORK**

The focus of our study is to understand the performance effect of the organizational capability of being customer oriented within the broader context of the organization and its environment. Customer orientation represents the capability to closely monitor and respond to the customer market (Jaworski and Kohli, 1993). It is the key focus of a market orientation (Deshpandé, Farley, and Webster, 1993) in addition to a competitor orientation (Narver and Slater, 1990). Further, a technology orientation, representing a focus on technological developments within the firm environment, has been conceptualized to be part of a firm’s strategic orientation as well (Gatignon and Xuereb, 1997; Voss and Giraud Voss, 2000; Zhou et al., 2005). As these orientations reflect entities that enable a firm to efficiently and effectively produce a market offering valued by some target market (Hunt and Morgan, 1995), we consider them as organizational resource stocks. Consistent with resource-based theory, we conjecture that the effect of these orientations will be dependent upon the firm’s current position on them (Teece et al., 1997; Tripsas and Gavetti, 2000). In order to reflect such path
dependencies, we consider the effects of customer orientation interdependently with the firm’s position on orientations related to competitors and technology. All firms may to some extent be customer, competitor, and/or technology oriented. However, some combinations of these orientations may be more beneficial than others. For example, firms aimed at differentiating themselves from competitors may be more effective in doing so when being both highly customer and competitor oriented than firms high on customer but low on competitor orientation. In other words, specific resources may become more valuable when leveraged interdependently with other resources (Lippman and Rumelt, 2003). Recently, the effectiveness of resource interdependency has indeed been empirically supported (Morgan, Vorhies, and Mason, 2009; Song et al., 2005; Vorhies and Morgan, 2005). In a similar vein, we conjecture that the benefits of a customer orientation need to be considered within the context of a firm’s configuration of strategic orientations. Its impact on firm performance is thus expected to be contingent upon a firm’s degree of competitor and technology orientation.

Resource effectiveness depends upon an organization’s allocation and mobilization decisions (Dierickx and Cool, 1989). Accordingly, the effectiveness of a customer orientation depends on whether and how this capability is used. The driving force behind leveraging this capability is the particular choices a firm makes with respect to its market approach as embodied in its business strategy. Thus, firms pursuing alternative business strategies may benefit differently from being customer oriented (cf. Olson et al., 2005). In order to conceptualize upon the different effects of strategies, we employ the strategy typology proposed by Miles and Snow (1978), which has received wide support and has been validated repeatedly (e.g., Campbell-Hunt, 2000; Hambrick 2003). Miles and Snow (1978) distinguish between four
strategy types: reactors, defenders, analyzers, and prospectors. Reactors are firms that lack a stable strategy and are highly responsive to environmental changes. Defenders are organizations that have narrow product market domains. They 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. Instead, they are internally oriented and focus on penetrating existing markets by improving the efficiency of existing operations. Analyzers essentially pursue hybrid strategies that exhibit some of the key features of both defenders and prospectors. Prospectors are externally oriented organizations that almost continuously search for market opportunities and compete by pioneering new products and developing innovative marketing techniques. Because they are constantly involved in monitoring the external environment and developing alternative responses to emerging trends, they are the creators of change and uncertainty in an industry to which their competitors must respond. However, because of their strong concern for product and market innovation, they usually are not completely efficient. Taken together, the different strategy types represent strategic postures on a continuum, with defender and prospector types at opposite ends and analyzers taking an intermediate position with characteristics of both (Dvir, Segev, and Shenhar, 1993; Shortell and Zajac, 1990). Indeed, recent findings suggest that “Analyzers do not necessarily constitute a separate group, but rather tend to be “like” prospectors [...] or “like” defenders” (DeSarbo, Di Benedetto, Song, and Sinha, 2005: 62). In this study, we therefore focus on the defender and prospector strategy types. Because the reactor strategy does not display a consistent strategy choice, we discard this type in our study, consistent with prior studies (cf. Matsuno and Mentzer, 2000; Olson et al., 2005).
Finally, we address the role of firm environment. Previous research on the performance effects of market orientation has not found consistent moderating effects of the firm’s environment. However, this research has not addressed the role of environmental conditions on the performance outcomes of individual orientations and business strategies simultaneously. In the following, we will examine the effect of dynamism with respect to both the customer market and the competitive environment within specific configurations of strategies and orientations.

**HYPOTHESES**

Figure 1 shows the organizing framework of our hypotheses. We address the role of customer orientation for defender and prospector type firms, respectively, in both static and dynamic environments. Specifically, given the strategy type and environmental conditions, we hypothesize on the importance of a customer orientation in relation to alternative orientations.

[Insert Figure 1]

**Defender strategy**

Given their narrow product scope for a limited customer mix, defenders cautiously engage in market penetration rather than seeking opportunities outside their domain (McDaniel and Kolari, 1987; Miles and Snow, 1978). They aim to outperform competitors within their niche by offering higher quality, superior service, and lower prices to their customers (Hambrick, 1983). In order to be capable of doing so, defenders, relatively more than the other strategy types, need to possess market-linking capabilities (Conant et al., 1990; DeSarbo et al., 2005). Defender firms are relatively competent in satisfying their limited choice of customers (McDaniel and 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 and Kolari, 1987), we expect their customer orientation to be especially beneficial in relatively stable markets.

Highly competitor- and/or technology-oriented defenders, in contrast to the essence of a defender strategy (see Miles and Snow, 1978), may be tempted to seek opportunities outside their narrow focus. In the event that their market is relatively stable, this may be unnecessary and costly, thus hurting business performance. Defenders, by strategic choice, are not in a position to benefit from broadening their market focus, which competitor- and/or technology-oriented firms may be tempted to do. By doing so, defenders lose their niche position and, as such, may become less effective with their activities in their traditional narrow product market domain. This is likely to alienate their traditionally strong customer base, hurting market share and profitability. We therefore hypothesize:

Hypothesis 1: Businesses configured as high customer orientation, low competitor orientation, and low technology orientation that pursue a defender strategy in relatively stable markets will exhibit high performance.

Prospector strategy

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 and Kolari, 1987). They have relatively strong technology (DeSarbo et al., 2005) and information processing capabilities (DeSarbo et al., 2005; McDaniel and Kolari, 1987). They focus less on
customer satisfaction (Hambrick, 1983), but rather employ customer information to provide innovative solutions to current and new customers. Thus, a customer orientation enables prospectors to engage in superior competence exploration, resulting in increased radical innovation performance (Atuahene-Gima, 2005). Also, their capabilities in terms of, especially, (information) technology (DeSarbo et al., 2005) make prospectors benefit from customer orientation in that it enables them to utilize information of their customer base (cf. Morgan et al., 2005), thus enabling them to optimize value appropriation and enhance performance. We therefore expect high-performing prospectors to be customer oriented.

However, customer orientation is also likely to bring prospectors closer to customers (Danneels, 2003), and because of this they may lose their distinctive strategic feature of driving the market. For example, Im and Workman (2004) found that customer orientation negatively affects the novelty of new products. Being competitor oriented in a relatively stable market is likely to even amplify this because such firms are more likely to imitate competitors and engage in competence exploitation (Atuahene-Gima, 2005). This is likely to hurt the performance of the prospector firm, as it will stimulate the prospector to respond to “the tyranny of the served market” (Hamel and Prahalad, 1994) rather than creating the market. Other firms that operate more efficiently than prospectors are likely to outperform the prospector in such a scenario. Therefore, in relatively stable markets we do not expect high-performing prospectors to be competitor oriented.

In order for a prospector to be capable of employing a strategy of driving a market, it needs to compete with cutting-edge solutions to market needs. This requires profound knowledge of new and upcoming opportunities to satisfy needs that are not yet manifested. 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 (cf. Srinivasan et al., 2002). This is relevant in relatively stable markets, because prospectors face the risk of being outperformed by firms that are able to offer similar solutions but more efficiently. We thus expect that in stable markets prospectors combining a customer orientation with a technology orientation will show the highest performance. Similarly, Olson, Slater, and Hult (2005) find that a customer and innovation orientation is positively related to performance for prospectors. Taken these things together, we hypothesize:

Hypothesis 2: Businesses configured as high customer orientation, high technology orientation, and low competitor orientation that pursue a prospector strategy in relatively stable markets will exhibit high performance.

Influence of Market Dynamism

If firms operate in a relatively dynamic market environment, market orientation (as a combination of customer and competitor orientations) becomes more important for firm performance in order to effectively face an evolving mix of customers and aggressive competitors (Jaworski and Kohli, 1993; Slater and 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, both competitor dynamics and high levels of demand uncertainty 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 competition. Working interdependently, these orientations will help firms to identify and target market segments that fit with the organization’s product offer and that are competitively interesting (Day, 1994). Also, they will enable a competitive strategy of being “second-but-better” (Frambach et al., 2003; Grinstein, 2008) when new attributes are introduced by competitors, thus directing their attention to ways of beating competition and increasing market share (cf. Armstrong and Collopy, 1996). Indeed, companies with distinctive benchmarking capabilities employ both their customer learning and competitive intelligence skills to outperform others (Vorhies and Morgan, 2005). This is important for both defender firms in order to defend their niche as well as for prospectors in order 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. However, we expect the role of technology orientation to differ across the two extreme strategy types.

Defender-type firms engage in very limited new product development. Consequently, they will not be able to reap the fruits from leveraging a customer orientation in combination with a technology orientation (McDaniel and Kolari, 1987). A technology orientation may increase their cost level instead, resulting in less-efficient operations and thus inferior performance. Given the above, we therefore expect that defenders operating in relatively dynamic markets will show high performance when combining a customer with a competitor orientation:
Hypothesis 3: Businesses configured as high customer orientation, high competitor orientation, and low technology orientation that pursue a defender strategy in relatively dynamic markets will exhibit high performance.

As prospectors seek ways to drive markets and to diversify, they are likely to suffer from the risk of overlooking opportunities or threats from outside their current business domain when primarily led in their focus by a competitor and customer orientation when markets change. 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 and March, 1993). For prospector firms, consequently, the positive effect of being able to leverage their competitive offering more effectively by combining a customer orientation with a competitor orientation may be mitigated by their increased focus on exploitation. A 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 (cf. Christensen and Bower, 1996). Instead, the customer orientation of these firms may help them to improve customer benefits of technological innovations (Chandy and Tellis, 1998). Accordingly, Zhou et al. (2005) find that market-oriented firms are more successful in creating technology-based innovation. We therefore expect that under conditions of changing markets, prospectors that perform highly are those firms that combine a customer and competitor orientation with a technology orientation, enabling them to develop new solutions for existing markets or to develop new markets based on leveraging technological advancement.
Hypothesis 4: Businesses configured as high customer orientation, high competitor orientation, and high technology orientation that pursue a prospector strategy in relatively dynamic markets will exhibit high performance.

DATA AND METHODS

Data Collection Procedure and Sample

The sample frame for this study was developed using 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 were identified as potential respondents, resulting in a sampling frame of 275 company informants, who were approached by telephone with a request to participate in the study. They were assured of confidentiality, were offered a report with the results of the study, and were invited to a seminar at which the results were presented. These conditions stimulated participation and ensured that the informants were professionally interested, conscientious, and committed to providing accurate data. Subsequent to two follow-up reminders, 126 questionnaires were received, leading to a response rate of 45.8%. To test for non-response bias, all variables included in this study were subjected to ANOVA tests comparing early, middle, and late respondents (Armstrong and Overton, 1977). None of these tests was significant, which indicates that non-response bias is not necessarily a major problem in our data.

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 our sample, 38% have less than 50 employees, 26% have 50–100 employees, 23% have 100–500 employees, and 13% have more than 500 employees.

Measurement

We measure strategy type by a self-typing approach, comparable to 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). We offer them to respondents in the sequence provided by Shortell and Zajac (1990), and we include options in between defender and analyzer and between analyzer and prospector (see Appendix). Responses are scored on a 5-point scale, with defenders being given the lowest score of 1 (12 in our sample, 9.5%), analyzers the medium score of 3 (34 in our sample, 12%), and prospectors the highest score of 5 (18 in our sample, 14.3%), while the score between defenders and analyzers is 2 (30 in our sample, 23.8%) and the score between analyzers and prospectors is 4 (27 in our sample, 21.4%). Firms that indicate they are reactors are given no score at all. Similar to Matsuno and Mentzer (2000), these firms are excluded from further analysis because they have no systematic way of responding to their environment. Comparable to prior studies (Dvir, Segev, and Shenhar, 1993; James and Hatten, 1995; Matsuno and Mentzer, 2000), only 5 firms (4%) identified themselves as reactors.

The other constructs included in our questionnaire are also measured on the basis of existing research. We conducted ten interviews in various companies to evaluate our questionnaire on interpretability and ease to complete. Several items were slightly modified based on the answers given by managers. With the exception of firm size, all items were measured by 5-point Likert-type scales. For measurement validation, we used conventional methods such as coefficient alpha, item-to-total
correlations, and exploratory factor analysis (Churchill, 1979), to select items that were used in confirmatory factor analyses (Bagozzi, Yi, and Philips, 1991; Gerbing and Anderson, 1988). The unidimensionality of each measure was assessed in a series of two-factor models in EQS 5.7 (Bentler, 1995). All possible combinations of measures were tested. This approach was chosen over the analysis of a single model to satisfy the rule of thumb of a 5-to-1 ratio of sample size to parameter estimates in confirmatory factor analysis (Kline, 1998). This approach ensures that each construct is tested in relation to every other construct included in the study. After eliminating items that had very low loadings or were loaded on more than one factor, all loadings were significant.

Next, the discriminant validity of the measures was assessed using the procedure advised by Bagozzi and Philips (1982) and Anderson (1987). Pairs of constructs were assessed in a series of two-factor confirmatory factor models in EQS 5.7. Each model was run twice, once constraining the correlation between the two latent variables to 1.0 and once releasing this parameter. A chi-square difference test was performed. The construct for strategy type is included in these analyses as a factor represented by a single item on the defender-analyzer-prospector dimension. For all models investigated, the chi-square values were significantly lower for the released models. These results suggest that the measures exhibit discriminant validity.\(^1\) Properties of measures and correlation matrix are presented in Tables 2a and 2b.

[Tables 2a and 2b here]

Customer and competitor orientation are measured by scales developed by Narver and Slater (1990). The competitor orientation scale includes all original items

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\(^1\) Due to space considerations, results of these tests are not reported here. They can be obtained from the authors.
Items of the original scales were slightly rephrased to ease completion of the questionnaire (comparable to modifications carried out by Han, Kim, and Srivastava, 1998). In the purification process described above, one item from the original customer orientation scale was dropped (alpha = .83). The same item, “Measuring customer satisfaction,” is dropped by Han, Kim, and Srivastava (1998), who argue that measuring customer satisfaction is not applicable to every industry. The technology orientation scale (alpha = .87) consists of four items derived from Gatignon and Xuereb (1997) and Han, Kim, and Kim (2001). The scale represents the original domain of the construct as defined by Gatignon and Xuereb (1997). Financial performance (alpha = .95) is a self-report, two-item measure of profitability and return on assets relative to competition. Subjective performance measures have been shown to correlate strongly with objective performance (Dess and Robinson, 1984). Market dynamism is captured by two variables that refer to the dynamics of competitors (competitor dynamism) and customers (demand uncertainty) respectively. Competitor dynamism is measured by three items adapted from Homburg and Pflesser (2000) (alpha = .83). Demand uncertainty is measured by four items, adapted from Gatignon and Xuereb (1997) (alpha = .73). Firm size is included as the control variable and is measured by the number of employees.

Analysis

The configurational approach outlined here assumes that the effect of a customer orientation is contingent upon the firm’s strategy type, its competitor and technology orientation, and the environment in which it operates. However, the empirical estimation of such complex interactions within a profile is econometrically challenging. Most prior studies employing a configurational approach have employed
cluster analysis (e.g., Ketchen and Shook, 1996; Marlin et al., 2007; Payne, 2006), deviation scores (e.g., Delery and Doty, 1996; Doty et al., 1993), or interaction effects (e.g., Dess, Lumpkin, and Covin, 1997), yet each of these approaches faces considerable challenges in providing understanding of the complex interactions leading to an outcome (Fiss, 2007, 2009; Van de Ven and Drazin, 1985). In the current study, we therefore use a novel methodology for modeling causal relations: fuzzy set Qualitative Comparative Analysis (fsQCA). This methodology is uniquely suitable for analyzing the kind of complex configurational relationships we face here because it explicitly focuses on combinations of attributes and allows for a sophisticated analysis of complex causal relationships (Ragin, 2000, 2008). Furthermore, several recent studies have suggested that applying QCA and fuzzy sets in organization and strategy settings can offer new insights into such causally complex issues (e.g., Fiss, 2007, 2009; Grandori and Furnari, 2008; Greckhamer et al., 2008; Jackson, 2005; Kogut, MacDuffie, and Ragin, 2004; Pajunen, 2008). As such, fsQCA appears to be particularly appropriate for the current study.

A fuzzy set analysis proceeds in three steps. In the first step, variables are recoded into sets to construct a data matrix known as a truth table. This transformation of variables into sets is based on three substantively meaningful thresholds: full membership in a set (e.g., the set of firms exhibiting a customer orientation), full non-membership, and the crossover point of maximum ambiguity (i.e., fuzziness) in the assessment of whether a case is more in or out of a set (Ragin, 2008: 30).

Since all of our measures—with the exception of the size measure—were based on 5-point Likert-type scales, this transformation was relatively unproblematic and employed the “direct method” described by Ragin (2008). Regarding strategy

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2 We provide here a brief overview of the method. For more detailed descriptions, as well as empirical examples, please see especially Ragin (2000, 2008), as well as, e.g., Fiss (2007), Greckhamer et al. (2008), Herrmann and Cronqvist (2009), Jackson (2005), and Schneider and Wagemann (2007).
type, we created two fuzzy set measures assessing the grade of membership in the set of firms exhibiting either a defender or prospector strategy. For the defender strategy, we constructed a 5-value fuzzy set in which the values for full membership, crossover point, and full non-membership were 1, 3, and 5, respectively. For a prospector strategy, the coding was the inverse, with a value of 5 indicating full membership and a value of 1 indicating full non-membership. For the other measures, we likewise used a value of 5 as indicating full membership, while 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, our size measure was based on the number of employees and followed OECD employment classes, with 1000 or more employees indicating full membership in the set of large firms, 20 or less employees indicating full non-membership, and 250 employees as the crossover point. Given this coding, we then constructed the truth table with $2^k$ 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.

In a second step, the researcher reduces the truth table based on two thresholds: the minimum number of cases exhibiting a configuration and the minimum consistency of these cases—that is, the degree to which cases correspond to the set-theoretic relationships with the outcome. Specifically, if cases showing the same configuration of causal conditions vary in their outcomes, consistency will be low. If, on the other hand, essentially all cases with a configuration exhibit the same kind of outcome, consistency will be high. For the current study, we defined the minimum number of cases as three and the minimum acceptable consistency as 0.80 (cf. Ragin, 2008).
In a third step, a Boolean algorithm is used to logically reduce the truth table rows to solutions using the truth table algorithm described by Ragin (2008). This algorithm incorporates a counterfactual analysis of what causal conditions lead to the outcome in question. The basic intuition of this counterfactual analysis is that the algorithm identifies configurations that consistently lead to an outcome by stripping away those conditions that sometimes are present and sometimes are absent, thus indicating that these conditions are not essential parts of a sufficient condition leading to the outcome. Furthermore, the truth table algorithm allows for a categorization of causal conditions into core and peripheral causes by allowing the researcher to identify different solutions based on “easy” and “difficult” counterfactuals (Ragin and Sonnet, 2008). “Easy” counterfactuals refer to situations in which a redundant causal condition is added to a set of causal conditions that by themselves already lead to the outcome in question. In contrast, “difficult” counterfactuals refer to situations in which a condition is removed from a set of causal conditions leading to the outcome on the assumption that this condition is redundant. When both “easy” and “difficult” counterfactuals are included, the result is a parsimonious solution. However, when only “easy” counterfactuals are included, the result is a somewhat more complex solution because fewer conditions are excluded. In comparing both solutions, the researcher can identify “core” conditions that are part of both solutions and “peripheral” ones that are eliminated in the parsimonious solution (Ragin, 2008). Finally, all analyses were conducted using the fs/QCA (2.0) software package.

RESULTS

Table 3 presents the results of the fuzzy set analysis and shows the configurations that are sufficient for achieving high performance. We use the notation introduced by
Ragin and Fiss (2008), where large circles indicate core conditions and small ones peripheral conditions, while full circles denote conditions that must be present and crossed out circles represent conditions that must be absent. All solutions exhibit high consistency values of 0.91 or above. Furthermore, the table also provides coverage scores, a measure of the importance of a causal path that indicates how many cases take this path to the outcome. Regarding overall coverage, the combined models account for about 70% of membership in the outcome and thus exhibit fairly good fit.

[Table 3 here]

The table indicates the existence of two sets of equifinal configurations. Solutions 1a–c combine a customer orientation with a defender strategy as core conditions. Solutions 2a–c likewise exhibit customer orientation as a core condition, but they combine it with several other core conditions as well as a prospector strategy as a peripheral condition. Thus, in accordance with arguments emphasizing the importance of a customer orientation, all configurations leading to high performance do include a customer orientation.

Regarding the first set of solutions, the defender configurations show that the absence of demand uncertainty is a condition of high performance, as would be expected (1a and 1b). However, the configurations also indicate the existence of several interaction and substitution effects. Specifically, configuration 1a describes a defender that avoids dynamic markets, in the form of either competitor dynamism or demand uncertainty. It needs no other orientation, and this finding is thus consistent with H1.

In a slight deviation from this pattern, configuration 1b indicates that a defender can compensate for competitor dynamism by adopting a technology orientation, while configuration 1c shows that a defender can furthermore even
compensate for operating in both dynamic and unpredictable markets by combining a competitor and technology orientation. These findings lend partial support to H3. The results also indicate that, in order to achieve high performance, defenders must not be large, thus pointing to the importance of agility in such dynamic markets.

The second set of solutions combines a customer orientation with a prospector strategy as a peripheral condition. In addition, the solutions again indicate several tradeoffs between both orientations and market features. First, solutions 2a and 2b demonstrate that demand uncertainty is also hurtful to prospectors. At the same time, these solutions also indicate that prospector-type configurations can operate successfully in dynamic markets. In fact, 2b makes operating in dynamic markets a core condition, in line with classic arguments regarding prospectors (Miles and Snow 1978). However, configuration 2c indicates that when operating in a stable market with or without demand uncertainty, then a prospector should not have a competitor orientation. In fact, the absence of a competitor orientation in such an environment is a core condition for high performance, in line with H2. In contrast, a competitor orientation is part of 2a and 2b, which means it is needed when markets are either clearly dynamic (2b) or can, but need not, be dynamic (2a).

Finally, and in accordance with H4, a technology orientation is part of all prospector configurations except 2b, which is the configuration with a dynamic market with considerable competitor dynamism. Here, a technology orientation may or may not be present. In sum, these findings lend partial support to H4, which held that prospectors in dynamic markets should combine a customer orientation with a competitor and technology orientation in order to achieve high performance.
Modeling the Inverse of the Outcome

We also conducted additional analyses of the inverse of the outcome to examine which configurations might consistently lead to the absence of high performance. The ability to conduct such an analysis is an important advantage of QCA, in that it 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 in fact lead to the absence of the outcome. In our case, we furthermore examined both the absence of high performance and the presence of low performance. These analyses indicated the presence of only one configuration consistently associated with low performance at an acceptable cutoff threshold. This configuration describes a firm that is large, pursues a defender strategy, and exhibits neither a technology nor a customer orientation. While this configuration consistently led to low performance, no other configuration did so in a consistent manner. This finding indicates the presence of causal asymmetry, with several solutions being sufficient for high performance and one being sufficient for low performance.

DISCUSSION

This study sheds new light on the much-debated role of customer orientation in the strategy literature. Adopting a configuration perspective, this research shows that across complex interactions of orientations, strategies, and environments, high-performing businesses have a customer orientation in common. We thus find general support for our theory that customer orientation is part of the resource stock of high-performance defender and prospector businesses operating in either stable or dynamic

3 Note that fsQCA differs in this regard from—e.g., regression analysis, in which the regression weights for high performance need only be multiplied by minus one in order to estimate an equation for predicting low performance.
environments. Depending on the market conditions, resource configurations of customer orientation with either competitor and/or technology orientations characterize high-performance organizations.

Our hypothesis (H1) that defender businesses operating in stable markets show high performance when being customer oriented received unambiguous support (see Table 3, solution 1a). Defender businesses do not need any other orientations in order to be successful in markets that are stable. This finding deviates from Gatignon and Xuereb (1997), who find that under low demand uncertainty only competitor orientation is effective. However, they do not distinguish between alternative strategy types, which may explain the differences found because the effectiveness of resources depends upon their utilization consistent with the business strategy.

The hypothesis that high-performance prospector businesses operating in stable markets are customer and technology oriented but not competitor oriented (H2) is supported for markets with low competitor dynamism (see Table 3, solution 2c). As expected, competitor orientation will hurt the prospectors’ performance. Demand uncertainty may either be high or low in this case. Perhaps, therefore, we find that the presence of customer orientation is a stronger condition for high performance than technology orientation. In markets with uncertain demand, prospectors may leverage their technology orientation more effectively. A customer orientation characterized by “loose coupling” (Danneels, 2003) may enable them to do so. In markets with high predictability of demand, a customer orientation characterized by “tight coupling” (Danneels, 2003) will enable effective matching of customer needs.

We expected defender businesses operating in dynamic markets to outperform others when being customer and competitor oriented (H3). In the event that both competition is intense and demand is uncertain, we indeed find this to be the case,
albeit that these businesses are also more likely to be technology oriented (see Table 3, solution 1c). The importance of technology orientation for defenders is an unexpected finding in that it may lead them to operate outside their narrow product-market domain. An explanation for this result can be found in the market orientation literature. Kohli and Jaworski (1990) state that “if the customer sets or their preferences are less stable, there is a greater likelihood that the company’s offerings will become mismatched with customers’ needs over a period of time. An organization therefore must ascertain the changed preferences of customers and adjust its offerings to match them” (p. 14). Technology orientation will enable the firm to develop solutions that match changed preferences beyond their traditional scope. Consistent with this, Dvir et al. (1993) find that defenders “[..] invest in new technologies only when they are convinced of their potential contribution to maintaining competitive advantage” (p. 160). Interestingly, in markets with predictable demand, high-performing defenders are not necessarily competitor oriented. Their profound understanding of the specific product-market domain that they serve is likely to be sufficient to outperform competitors, provided that their customer orientation interacts with a technology orientation. The latter may enable more adequate responses to competitive new product introductions that are likely to result from intense competition.

We found that high-performance prospectors operating in competitively dynamic markets are predominantly customer oriented and to a lesser extent competitor and technology oriented (see Table 3, solution 2a). This finding partially supports hypothesis 4 because we also expected this configuration to show high performance in markets with uncertain demand. However, in those conditions a competitor orientation may not be necessary (cf. solution 2c, Table 3). An explanation
for this result is that a profound understanding of competitors may be important for high performance when competition is changing (cf. solution 2b, Table 3) but does not provide guidance when customers are unpredictable.

Taken together, our results support the hypotheses for stable market conditions (hypotheses 1 and 2), but show a more fine-grained picture than hypothesized for dynamic environments. In particular, we found that environmental dynamics in terms of competitor dynamism and demand uncertainty have different impacts.

LIMITATIONS AND IMPLICATIONS

The implications of this study should be considered against its limitations. The findings are based upon a single study. The robustness of the results reported here need to be assessed in replication studies. Further, we used subjective measures to assess performance outcomes rather than actual performance data. Although this indeed is a limitation of the study, such measures have been found to be satisfactory reflections of actual firm performance (e.g., Dess and Robinson, 1984; Gatignon and Xuereb, 1997). Also, it should be taken into account that data were collected among single informants. Although multiple informants may enhance reliability of the data (Huber and Power, 1985), single-informant studies are used widely and effectively.

Theoretical Implications

This study contributes to the strategy literature by adopting a configurational perspective on firm strategy, resources, and the environment, thus integrating the contingency and resource-based perspectives. The approach that is followed in this paper builds on and extends the resource-based perspective on customer orientation. Prior studies argue that customer orientation is a resource (e.g., Hunt and Morgan,
This study further applies the resource-based logic by examining the complementarity of customer orientation with other orientations as different resource bundles that may be contingent on business strategies and environments. Using set-theoretic modeling, this study tests the performance implications of a complex set of interactions among these variables, allowing for equifinality in configurations, an issue that has been identified as holding considerable promise for the strategy literature (e.g., Short, Payne, and Ketchen, 2008). Based on this approach, we find convincing evidence for a dominant effect of customer orientation on firm performance for firms pursuing alternative yet equifinal strategies in varying environmental conditions employing different resource stocks. This finding departs from previous studies that find customer orientation to be beneficial only for certain strategy types (e.g., Lukas, 1999; Olson, Slater, and Hult, 2005; Slater, Hult, and Olson, 2007) or under certain conditions (Gatignon and Xuereb, 1997). Importantly, the methods employed by these studies did not allow for testing a comprehensive set of interaction effects comparable to those considered in the current study and to assess alternative configurations that explain equally high performance. As such, our study contributes to a growing body of literature on organizational configurations that appears to be well poised to provide new insights into the strategy literature (Short et al., 2008). In using fsQCA, our study furthermore demonstrates the value of employing a novel methodology that is particularly well suited to modeling the complex, multiple interactions inherent in configurational theories in general and the strategy/orientation literature in particular.

This study further contributes to the market orientation literature in two important ways. First, consistent with recent literature (e.g., Homburg et al., 2007; Slater, Hult, and Olson, 2007), it points at the importance of distinguishing between
alternative orientations within the market orientation construct. In contrast to previous studies, however, we investigated the effect of alternative orientations not only within configurations of strategy types (cf. Lukas, 1999; Olson, Slater, and Hult, 2005; Slater, Hult, and Olson, 2007) and market conditions (cf. Gatignon and Xuereb, 1997; Olson, Slater, and Hult, 2005; Slater, Hult, and Olson, 2007), but also within configurations of alternative orientations. This approach departs from extant research on organizational configuration that addresses the performance effect of either market orientation as a single construct (e.g., Kirca et al. 2005; Matsuno and Mentzer, 2000; Morgan, Vorhies, and Mason, 2009) or of alternative orientations separately (e.g., Atuahene-Gima, 2005; Gatignon and Xuereb, 1997; Lukas, 1999; Olson, Slater, and Hult, 2005; Slater, Hult, and Olson, 2007). Second, although much previous research on the performance effect of customer (or market) orientation has considered the role of the business environment, the results have been mixed. Many studies report no significant effects (e.g., Atuahene-Gima, 2005; Kirca et al., 2005; Kyriakopoulos and Moorman, 2004; Lukas, 1999; Morgan, Vorhies, and Mason, 2009), whereas some do for demand uncertainty (Gatignon and Xuereb, 1997; Slater, Hult, and Olson, 2007). The findings of the present study show that the role of the environment may be very complex but that it is important. The results indicate that different conditions of competitor dynamism and demand uncertainty interact with both strategy type and the firm’s resource configuration. Therefore, the effect of market conditions on firm performance may be much more subtle than previously expected and captured. This may underlie the ambiguity of research findings on the effects of environmental contexts reported in previous literature.
Managerial Implications

Berthon, Hulbert, and Pitt (1999) argue that managers need to ask themselves “which strategic posture will best help fulfill their companies’ future goals and objectives” (p. 53). Similarly, Olson et al. (2005) suggest that “the message to managers is not to ignore any of the orientations but rather to prioritize them and place the greatest emphasis and resources on those most aligned with the successful implementation of a firm’s business strategy” (p. 60). Although the findings of our research support these implications in that different configurations of strategy, resources, and market conditions are found to result in equally high performance, our study also points at the unconditional importance of customer orientation. Consistently, businesses that show high performance are found to be customer oriented. Adopting a customer orientation, however, may be a complex process involving organizational culture change (Gebhardt et al., 2006). It requires both developing an affective organizational system of “putting the customer first” as well as the cognitive organizational systems to effectively do so (Homburg et al., 2007).

Our findings also provide implications for practitioners pursuing alternative strategies. Defender businesses that operate in a stable market will benefit most from developing a customer orientation. In the case that competition is intensive, they are advised to complement their customer orientation with a technology orientation. If, in addition, demand is uncertain, then a combination of customer, competitor, and technology orientation is most beneficial. Prospector businesses operating in a market with low competitor dynamism benefit most from a customer orientation combined with a technology orientation. For these businesses, a competitor orientation is harmful and should be avoided. In the event that the firm’s market is dynamic in
terms of competitor dynamism but demand is predictable, prospectors are advised to adopt a competitor orientation together with a strong customer orientation.
APPENDIX
Operationalization of Constructs

Strategy type (adapted from James and Hatten, 1995; Matsuno and Mentzer, 2000; and Shortell and 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 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 try to move out 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 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.
Customer Orientation (adapted from Narver and Slater, 1990)
Rate the extent to which you agree or disagree with the following statements on how your organization generally deals with customers.

1. We determine our objectives on the basis of customer satisfaction.
2. After-sales service occupies an important position in our organization.
3. We understand customer needs.
4. The creation of customer value may be seen as a daily activity.
5. We are strongly committed to the customer.

Competitor Orientation (adapted from Narver and Slater, 1990)
Rate the extent to which you agree or disagree with the following statements on how your organization generally deals with competitors.

1. Salespeople continuously share competitor information.
2. We respond rapidly to competition.
3. Our top managers discuss competitors’ strategies.
4. We target potential competitive advantages.

Technology Orientation
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.
2. We strive for technological breakthroughs.
3. We systematically scan for new technologies inside and outside the industry.
4. Significant portions of profit are reinvested in R&D.

Firm Performance (adapted from Homburg and Pflesser, 2000)
Over the last year, relative to your competitors, how has your business unit performed with respect to…

1. Profitability?
2. Return on assets?

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4 Item 2 is derived from Gatignon and Xuereb (1997), while other items are adapted from Han, Kim, and Kim (2001).
**Competitor Dynamism** (adapted from Homburg and 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
2. Changes in sales strategies by your competitors
3. Changes in sales promotion/advertising strategies of your competitors

**Demand Uncertainty** (adapted from Gatignon and Xuereb, 1997)
Rate the extent to which you agree or disagree with the following statements about the market on which the product/service is launched…

1. The demand is fairly easy to forecast in this market.
2. The sales market is difficult to predict.
3. The demand and preferences of customers are almost unforeseeable.
4. The demand is influenced by so many factors that no one really knows which way it is going.
REFERENCES


<table>
<thead>
<tr>
<th>Reference</th>
<th>Orientation</th>
<th>Strategy Type</th>
<th>Environment</th>
<th>Performance</th>
<th>Sample</th>
<th>Analysis</th>
<th>Key Findings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gatignon &amp; Xuereb</td>
<td>Customer orientation, competitor orientation, technology orientation</td>
<td>--</td>
<td>Market growth, competitive intensity, demand uncertainty</td>
<td>Self-report innovation performance</td>
<td>393 U.S. marketing executives</td>
<td>OLS regression</td>
<td>Under high market growth are competitor and technology orientation positively related to innovation performance; under low market growth only technology orientation. Under high demand uncertainty are customer and technology orientation related to innovation performance; under low demand uncertainty only competitor orientation.</td>
</tr>
<tr>
<td>Lukas (1999)</td>
<td>Customer orientation, competitor orientation</td>
<td>Prospector, Analyzer, Defender, Reactor</td>
<td>Market turbulence, competitive intensity, technological turbulence</td>
<td>Self-report</td>
<td>194 BU-level informants</td>
<td>Univariate and multivariate analysis of variance</td>
<td>Customer orientation is stronger for prospectors and analyzers; competitor orientation is stronger for analyzers than defenders and reactors; environment does not moderate strategy type-market orientation relationship.</td>
</tr>
<tr>
<td>Matsuno &amp; Mentzer</td>
<td>Market orientation (information process)</td>
<td>Prospector, Analyzer, Defender</td>
<td>--</td>
<td>Self-report (ROI, market share, sales growth, percentage new product sales)</td>
<td>364 marketing executives from U.S. manufacturing companies</td>
<td>Multi-group structural equation analysis</td>
<td>Increasing market orientation has positive effect for prospectors, for defenders only in terms of ROI but negative for other performance measures, and does not result in higher performance for analyzers.</td>
</tr>
<tr>
<td>Vorhies &amp; Morgan</td>
<td>--</td>
<td>Prospector, Analyzer, Defender</td>
<td>--</td>
<td>Self-report (marketing effectiveness), objective (marketing efficiency)</td>
<td>209 chief marketing executives in U.S. trucking industry</td>
<td>Regression of marketing profile deviation scores (from mean scores top performing group) on performance</td>
<td>Deviations from ideal profile hurts marketing effectiveness for prospectors, analyzers, defenders; deviations from ideal profile hurts marketing efficiency for prospectors and defenders.</td>
</tr>
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<td>Kyriakopoulos</td>
<td>Market</td>
<td>Marketing</td>
<td>Environmental</td>
<td>Self-report</td>
<td>96 (of which)</td>
<td>Regression</td>
<td>Firms with high market orientation show positive</td>
</tr>
<tr>
<td>Authors</td>
<td>Orientation</td>
<td>Strategy (defender), exploration (prospector)</td>
<td>Turbulence (control)</td>
<td>Performance</td>
<td>Methodology</td>
<td>Findings</td>
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<tr>
<td>&amp; Moorman (2004)</td>
<td>orientation</td>
<td>exploitation strategy</td>
<td>turbulence</td>
<td>new product</td>
<td>75 in year 2) BU-level vice presidents of marketing, Dutch food processing industry</td>
<td>effect of exploration on new product performance when exploitation is high in contrast to low market-oriented firms; environmental turbulence does not affect relationships.</td>
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<tr>
<td>Atuahene-Gima (2005)</td>
<td>Customer orientation</td>
<td>Competence exploitation (defender),</td>
<td>Environmental</td>
<td>Self-report</td>
<td>227 Chinese</td>
<td>Regression</td>
<td>Customer and competitor orientation positively affect competence exploitation and exploration; customer orientation has a stronger effect than competitor orientation on competence exploration, which is the only means by which customer orientation positively affects radical innovation performance; competitor orientation has a stronger effect than customer orientation on competence exploitation, a key driver of incremental innovation performance.</td>
</tr>
<tr>
<td></td>
<td>Competitor orientation</td>
<td>competence exploration (prospector)</td>
<td>turbulence</td>
<td>incremental and radical innovation performance</td>
<td>electronics firms (two senior informants)</td>
<td>Structural equation modelling, regression analysis</td>
<td>No moderating effects of environment on market orientation-performance relationship found.</td>
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<td>Kirca, Jayachandran, &amp; Bearden (2005)</td>
<td>Market orientation</td>
<td>--</td>
<td>Market turbulence, technological turbulence, competitive intensity</td>
<td>Organizational performance</td>
<td>Meta-analysis</td>
<td></td>
<td>Customer orientation is positively related to performance for prospectors and analyzers; competitor orientation is positively related to performance for low-cost defenders; innovation orientation is positively related to performance for prospectors and negatively for analysers and low-cost defenders.</td>
</tr>
<tr>
<td>Olson, Slater, &amp; Hult (2005)</td>
<td>Customer orientation, competitor orientation, innovation orientation internal/ cost orientation</td>
<td>Prospectors, analyzers, (low-cost, differentiated) defenders</td>
<td>Market turbulence, technological turbulence</td>
<td>Self-report overall performance</td>
<td>228 senior marketing managers</td>
<td>OLS regression within subgroups (for each strategy type)</td>
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<td>Homburg, Grozdanovic, &amp; Klarmann (2005)</td>
<td>Customer orientation; competitor</td>
<td>--</td>
<td>Competitive intensity</td>
<td>Self-report market and financial</td>
<td>280 BU-level senior marketing</td>
<td>Structural Equation Modeling</td>
<td>Customer orientation of the affective system has stronger impact on customer-related responsiveness than the cognitive system.</td>
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<td>(2007)</td>
<td>orientation; resource orientation</td>
<td>performance, additional objective financial performance and/or sales managers (117 two respondents, 163 single respondents)</td>
<td>(multi-group)</td>
<td>Customer-related responsiveness has stronger impact on market performance than competitor-related responsiveness.</td>
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<td>Slater, Hult, &amp; Olson (2007)</td>
<td>Customer orientation; competitor orientation; technology orientation</td>
<td>Prospectors, Analyzers, (low cost, differentiated) Defenders Market turbulence, competitive hostility, technological turbulence Self-report overall performance 160 BU-level senior marketing managers of high-tech U.S. firms</td>
<td>OLS regression within subgroups (for each strategy type)</td>
<td>Customer orientation is not significantly related to performance except for differentiated defenders; a positive effect is found for prospectors when demand uncertainty is high. Competitor orientation is positively related to performance for analyzers and low-cost defenders. Technology orientation is positively related to performance for prospectors and low-cost defenders.</td>
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### TABLE 2a
Properties of Purified Measures

<table>
<thead>
<tr>
<th># items</th>
<th>Range</th>
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<td>16-10000</td>
<td>345.43</td>
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</table>

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

### TABLE 2b
Correlation Matrix of Measures

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<th>(4)</th>
<th>(5)</th>
<th>(6)</th>
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<td>.08</td>
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1 Correlations above .17 are significant at $p < .05$
### TABLE 3
Configurations for Achieving High Performance

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<th>1c</th>
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<td>0.04</td>
<td>0.08</td>
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</tbody>
</table>

Overall Solution Consistency: 0.89
Overall Solution Coverage: 0.70

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<tr>
<th>Hypotheses</th>
<th>Support H1</th>
<th>Partial Support H3</th>
<th>Partial Support H4</th>
<th>Support H2</th>
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</table>

FIGURE 1
Hypotheses: Resource Base with High Performance under Alternative Strategy Types and Market Conditions

<table>
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<th>High performing businesses have a..</th>
<th>Strategy Type</th>
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<tr>
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<td><strong>Prospector</strong></td>
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<tr>
<td>Stall</td>
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</tr>
<tr>
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<td><strong>Hypothesis 2:</strong> Combination of Customer Orientation Technology Orientation</td>
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<tr>
<td></td>
<td><strong>Hypothesis 3:</strong> Combination of Customer Orientation Competitor Orientation</td>
</tr>
<tr>
<td></td>
<td><strong>Hypothesis 4:</strong> Combination of Customer Orientation Competitor Orientation Technology Orientation</td>
</tr>
</tbody>
</table>