



The reinforcing effect of a firm's customer orientation and supply-base orientation on performance



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ABSTRACT

Although the merits of maintaining strategic orientations such as customer orientation and supply-base orientation have been discussed in the literature, there is relatively little understanding of how these strategic orientations interrelate. Drawing on dynamic capability theory, this study examines how these strategic orientations, through the deployment of their underlying capabilities, are drivers of firm performance. Based on a cross-industry sample, the findings indicate that firm's customer orientation and supply-base orientation are complementary strategic assets that contribute to superior performance. The findings provide new insights regarding the interplay of different strategic orientations and the importance of capability deployment.

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1. Introduction

Marketing researchers posit that a marketing orientation provides firms with a source of competitive advantage (e.g., Kirca, Jayachandran, & Bearden, 2005; Noble, Sinha, & Kumar, 2002). However, market orientation is not the only viable strategic orientation. Firms can successfully follow a *production orientation*, which is based on the principles that production efficiencies, cost minimization, and mass distribution can be used effectively to deliver quality goods and services to the customer at attractive prices (Noble et al., 2002). Another alternative is a *supply-base orientation*, which is based on the principles that close collaboration with suppliers can be used effectively to improve operational activities and to be more responsive to customers' needs (Chen, Paulraj, & Lado, 2004; Ziggers & Henseler, 2009). (See Fig. 1.)

Although some studies have included the effect of market orientation and other strategic orientations on performance (Gatignon & Xuereb, 1997; Noble et al., 2002; Zhou, Yim, & Tse, 2005), there is little understanding of how those strategic orientations interrelate. Noble et al. (2002, p36) advocate that "a configurational approach should be pursued to determine the relative combinations of various strategic orientations that lead to performance.... This would provide additional insights into the relative value of alternative strategic orientations that lead to performance." The value of strategic orientations is not a lever that can be pulled to directly increase performance (Hult, Ketchen, & Slater, 2005); rather, it is how these strategic assets, which consist of a set of capabilities (Foley & Fahy, 2009), are deployed to achieve performance and competitive

advantage (Auh & Mengue, 2007; Morgan, Vorhies, & Mason, 2009; Noble & Mokwa, 1999). To address these limitations, this study examines one particular interplay of strategic orientations. More specifically, it examines whether it is rewarding to maintain both a customer and a supply-base orientation. Drawing on the dynamic capability perspective, it views both orientations as strategic assets that comprise a set of capabilities that represent deployment mechanisms.

Our study makes two contributions. First, we identify and empirically examine specific strategic orientations that enable firms to effectively improve their performance. The findings provide new insights regarding the interplay of different orientations and performance and indicate that firms can outperform rivals when they successfully capitalize on these assets. Second, we identify how both customer orientation and supply-base orientation comprise a set of capabilities that are important sources of competitive advantage. This finding provides empirical support for the dynamic capability theory propositions regarding the importance of capability deployment, which permits firms to position themselves in their market environment.

2. Literature review

2.1. Dynamic capability view

The dynamic capability theory of firms provides a useful conceptual lens for understanding the sources of firms' competitive advantage and the processes through which firms build, integrate, and configure their strategic resources to effectively respond to changes in the marketplace (Eisenhardt & Martin, 2000; Teece & Maritan, 2007). A basic assumption of the dynamic capability theory is that inter-firm performance variance

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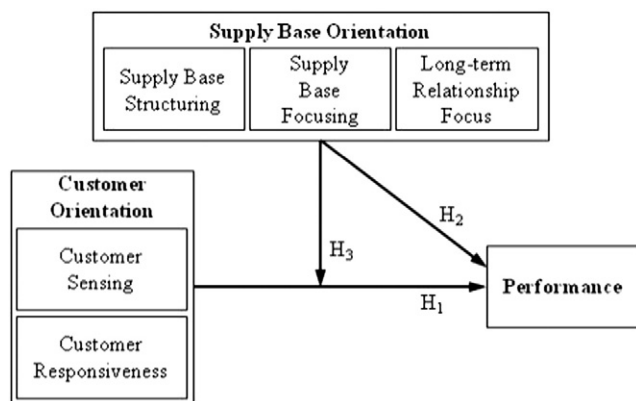


Fig. 1. Conceptual model.

over time is explained by firms' capabilities to acquire and to deploy resources in ways that match the firm's marketplace (Day, 1994; Teece & Maritan, 2007). These capabilities entail complex coordinated patterns of skills and knowledge that have become embedded as organizational routines (Grant, 1996), are being executed well relative to rivals (Eisenhardt & Martin, 2000; Foley & Fahy, 2009; Teece & Maritan, 2007), and can persist through time despite attempts by rival firms to copy these capabilities (Day, 1994; Teece & Maritan, 2007). This means that although possessing strategic assets may be beneficial, firms have to deploy these assets in ways that match the market conditions to accrue value for the firm. Modeling customer orientation and supply-base orientation within this perspective may facilitate a more satisfactory approach because the emphasis will be on identifying key capabilities that the firm must develop to accrue value (Foley & Fahy, 2009). Thus, given the presumed heterogeneity of firms' customer orientation and supply-base orientation, a firm's skills in configuring and deploying the underlying capabilities of these strategic assets could enable it to outperform its rivals and contribute to superior performance (e.g., customer responsiveness, cost reductions, innovation; Auh & Mengue, 2007; Noble & Mokwa, 1999; White, Conant, & Echambadi, 2003).

2.2. Customer orientation

A firm's customer orientation refers to the degree to which the firm obtains and uses information from customers, develops a strategy that will meet customer needs, and implements that strategy by being responsive to customer needs (i.e., the firm's understanding of its target customers; Day, 1994; Feng, Sun, Zhu, & Sohal, 2012; Hult et al., 2005; Liu, Ke, Wei, & Hua, 2013; Theoharakis & Hooley, 2008). A customer-oriented firm, therefore, is considered as a firm that places high priority on present and future customer needs and has advanced its abilities to sense events and trends in their customer base (i.e., *customer sensing*) and to respond to that information (i.e., *customer responsiveness*). Customer orientation is viewed as a strategic asset that results from a firm's continuous improvement of its customer sensing and customer responsiveness capabilities (Day, 1994; Foley & Fahy, 2009). A firm with a strong customer orientation may outperform its rivals because it better understands customer needs, adjusts products and services, and forecasts demand (Danneels, 2003; Feng et al., 2012; Theoharakis & Hooley, 2008). Among the benefits that may be achieved are greater customer satisfaction, delivery to specifications, and delivery reliability (Danneels, 2003; Feng et al., 2012; Martin & Grbac, 2003; Theoharakis & Hooley, 2008).

2.2.1. Customer sensing

For firms, it is important to gather information about customers' needs and preferences because they are dynamic in nature. This information may help firms understand customers' concerns and future preferences and anticipate future trends (Feng et al., 2012; Lin &

Germain, 2004). The generation of such information relies on several mechanisms, including, e.g., meetings and discussions with customers and trade partners, analyses of sales reports, and customer surveys. Frequent, timely and accurate contacts between a firm and its customers have shown the necessity of interacting with customers; this interaction provides major inputs to improve efficiency and to capture market information more effectively (Brown & Eisenhardt, 1995; Day, 1994; Feng et al., 2012). The point is that the generation of customer information is more than obtaining customer opinions; it also entails the careful analysis and subsequent interpretation of the developments that might affect future customer needs and preferences (Day, 1994).

2.2.2. Customer responsiveness

A firm can generate customer information, but unless it responds to this information, little is achieved. Responsiveness is the action taken in response to the acquired customer information. Within the firm, it takes the form of educating, communicating and planning with other functions, which provides a shared basis for concerted actions (Day, 1994), which install the customer orientation profile (Nwankwo, 1995). By means of interacting with customers (e.g., customer relationship programs, inter-organizational teams), it takes the form of selecting target markets, designing and offering products that cater to their current and anticipated needs, and producing, distributing, and promoting products in ways that bring forth favorable customer needs (Day, 1994; Feng et al., 2012; Theoharakis & Hooley, 2008).

Thus, firms with a superior customer orientation may achieve superior performance because they have a greater understanding of customers' expressed and latent needs and how to respond to these needs. Therefore, it is hypothesized that:

H1. A firm's customer orientation contributes positively to its performance.

2.3. Supply-base orientation

A firm's supply-base orientation refers to the degree to which a firm analyzes, plans, and controls interactions with suppliers (Corsten & Felde, 2005; Ivens, van de Vijver, & Vos, 2013; Pardo, Missirilian, Portier, & Salle, 2011). It helps firms improve supplier-related routines and processes to adequately respond to technological and customer changes (Rosenzweig, 2009). A supply base-oriented firm, therefore, is considered a firm that places a high priority on present and prospective buyer-supplier relationships and has advanced its ability (1) to create a strong network of suppliers to reposition themselves in competitive markets, i.e., *supply-base structuring*, (2) to foster close working relationships with a limited number of suppliers to increase (customer) responsiveness, i.e., *supply-base focusing*, and (3) to adopt a long-term orientation towards suppliers, promoting knowledge development and exchange, i.e., *long-term relationship focus* (Chen & Paulraj, 2004a; Holmen, Aune, & Pedersen, 2013; Paulraj, Lado, & Chen, 2008). A supply-base orientation is viewed as a strategic asset that results from a firm's continuous improvement of its supplier management capabilities (Chen et al., 2004). A firm with a strong supply-base orientation may outperform its rivals because it has a greater understanding of how to coordinate and synchronize activities within its network of suppliers and to create a context that fosters collaboration. The potential benefits of a supply-base orientation are, among others, reduced lead time and inventory, improved quality, improved earnings, more competent suppliers, and increased (customer) responsiveness (Chen et al., 2004; Flynn, Huo, & Zhao, 2010; Ivens et al., 2013; Rosenzweig, 2009).

2.3.1. Supply-base structuring

Firms can lose their competitive positional advantage if their existing resources and capabilities become obsolete because of the environmental uncertainty that surrounds them in their markets (Hite & Hesterley, 2001). Facing these conditions, firms that are capable of creating a strong

supply base can reposition themselves and maintain their advantage or develop new advantages (Gulati, 1999). Their supply base enables them to accelerate knowledge access and transfer, which has relevant effects on firm growth and innovativeness (Dyer & Chu, 2003; Holmen et al., 2013; Paulraj et al., 2008). Key determinants of an effective supply base are strong linkages between members with low levels of vertical integration, interdependence, and a move away from power-based relationships towards partnerships with a sense of mutual development (Chen & Paulraj, 2004b; Lambert & Cooper, 2000). The structuring capability of a supply-base orientation allows a firm to synchronize activities and to systematically transfer information and knowledge within the firm's network of suppliers. It is likely to realize several benefits, such as reduced inventory management costs, volume consolidation and quantity discounts, reduced lead times, improved product development and knowledge access (Araujo, Dubois, & Gadde, 1999; Chen & Paulraj, 2004b; Holmen et al., 2013; Lambert & Cooper, 2000).

2.3.2. Supply-base focusing

In contrast to a transaction cost perspective that argues that a reduction of a firm's supply base may expose firms to transaction-related risks (i.e., supplier opportunism, reduced flexibility and relation specific investments, c.f. Williamson (1991)), the relational perspective poses that having close working relationships for the long haul with a limited number of suppliers, when *properly* and *selectively* used (Bensaou, 1999), permits firms to realize mutual gains that individually could not be achieved. Even when transactions with suppliers are nothing more than the timely exchange of the product or service with minimum hassle and a competitive price, it may not be possible to do this with more than a few critical suppliers because of the efforts and resources required to support a tightly linked relationship (Day, 1994). It allows for changing the overall mix of available resources and skills (Geringer & Hebert, 1991) and detecting and addressing operational issues early in the production process (Ragatz, Handfield, & Scannell, 1997). Substantial cost savings can be achieved, such as fewer suppliers to contact and increased economies of scale (Chen et al., 2004; Guimaraes, Cook, & Natarajan, 2002).

2.3.3. Long-term relationship focus

A long-term relationship focus represents the capability to build strong relational bonds with suppliers that are characterized by trust, commitment, and mutual understanding (Chen & Paulraj, 2004a; De Toni & Nassimbeni, 1999; Nagati & Rebolledo, 2013; Ring & Van de Ven, 1992). Such a context fosters knowledge development and exchange (Madhok & Tallman, 1998), the willingness to share risks and revenues (Cooper & Ellram, 1993), and an aim for mutual gains (Heide & John, 1992; Morgan & Hunt, 1994). In contrast, a short-term relationship horizon focused on transaction cost economizing may inhibit the development of relational competencies, frustrate collaboration, increase opportunism, and ultimately dissipate relational rents (Paulraj et al., 2008). Present day competitiveness increasingly depends on long-term relationships to achieve cost reductions, quality improvements, and customer responsiveness (Bhalla & Terjesen, 2013; Chen & Paulraj, 2004b; De Toni & Nassimbeni, 1999).

Thus, firms with a superior supply base orientation may achieve superior performance because they have a greater understanding of how to coordinate and synchronize activities within its network of suppliers and to create a context that fosters collaboration. Therefore, it is hypothesized that:

H2. A firm's supply-base orientation contributes positively to its performance.

2.4. The interaction of customer orientation and supply-base orientation

A customer-oriented firm will emphasize understanding and satisfying the demands of its target customers (Zhou, Brown, & Dev, 2009). If customer demand is changing rapidly, the customer-oriented firm will

actively collect, analyze, and disseminate information and knowledge about it to target customers. The firm will be predisposed to better predict customer demands and to allow for better coordination with its supply base in anticipation of customer trends (Han, Kim, & Srivastava, 1998). A supply base-oriented firm in turn will be predisposed to better adapt its supply system because it has a greater understanding of how to coordinate and synchronize activities within its network of suppliers. Therefore, it can better anticipate those customer trends through obtaining real-time, rich content information and knowledge. Studies in the field of production planning and control have shown that such information is pivotal for organizing value-adding activities (Giesberts & Tang, 1992; Martin & Grbac, 2003; Rexhausen, Pibernik, & Kaiser, 2012; Rudberg & Wikner, 2004). Green et al. (2006), for instance, contend that a firm's customer orientation can affect its performance by influencing its supply chain management. Similarly, Min, Mentzer, and Ladd (2007) suggest that customer orientation is the basis for managing the supply chain, in addition to its positive effect on performance. Therefore, a firm with a customer orientation and a supply-base orientation may experience a reinforcing synergistic effect. That is, for firms that are more customer oriented, supply-base orientation is a means for leveraging their customer orientation by both improving the firm's responsiveness to customer needs and adapting their supply base. Therefore, the following is hypothesized:

H3. The better a firm's supply-base orientation is, the stronger is the relationship between the firm's customer orientation and its performance.

3. Research methodology

3.1. Context and sample

An empirical study was conducted in the Netherlands to empirically validate the model. The study focused on purchasing, materials management, and supply chain management departments. High-ranking professionals from these departments were found to be the most appropriate respondents. A survey of buying firms' top purchasing and supply management executives to study phenomena within their sourcing network is a common practice in the field (see Carr and Pearson (1999)).

Using the corporate members of the Dutch Association of Purchase Management (NEVI) as a sampling frame, we drew a stratified sample from purchase managers in the Netherlands. Of the 1217 purchase managers who were asked to complete an online survey, 176 provided useable responses, resulting in a 14.5% response rate. Table 1 provides an overview of the sample's composition in terms of the respondents' corporate function and the industry in which they work. Most of the respondents hold a leading position in a purchase-related field. The majority of those respondents who stated that they have a different function than the listed ones hold general management functions.¹

To test for non-response bias, we compared the responses of the early and late waves of returned surveys on the basis of the assumption that late respondents' opinions are representative of non-respondents' opinions (Armstrong & Overton, 1977). A Hotelling T^2 test using the construct indicators as dependent variables and the time of response (early/late) as the independent variable yielded no significant differences ($p = 0.369$). We therefore conclude that non-response bias is not a serious problem in our dataset.

3.2. Measurement

All constructs in the proposed model are operationalized by means of reflective multi-item scales. The measures for customer sensing,

¹ We selected the current sampling frame because we assumed that members of this professional association are more involved with their field; we assumed that they would show a higher willingness to contribute to scientific progress in their discipline and therefore participate in our empirical study. We acknowledge that our research design might be prone to single-informant bias. However, studies that are comparable in scope and sample size tend to report that there was no evidence of single-informant bias (e.g., Reinartz, Krafft, & Hoyer, 2004). In light of this, we decided against the additional effort for the companies that would have been evoked by a multi-respondent design.

Table 1
Composition of sample in terms of industry and corporate function.

Industry	Proportion	Corporate function	Proportion
Manufacturing	40.3%	Purchasing manager	57.3%
Wholesale/Retail	8.3%	Chief Procurement Officer	9.3%
Chemical/Pharmaceutical	6.8%	Senior Purchaser	9.3%
Construction	6.8%	Purchaser/Purchase Assistant	7.3%
IT/Telecommunications	6.3%	Logistics Manager	5.3%
Utilities	4.9%	Supply Chain Manager	3.3%
Transport	4.9%	Other	8.0%
Oil/Gas/Petrol	4.4%		
Banks/Insurances	2.4%		
Other	15.0%		
Total:	100.0%	Total:	100.0%

customer responsiveness, supply-base structuring, supply-base focusing, long-term relationship focus, and performance were adapted from the extant literature on supply management (e.g., [Chen & Paulraj, 2004a](#); [Lambert & Cooper, 2000](#); [Paulraj et al., 2008](#); [Shin, Collier, & Wilson, 2000](#)). All indicators were measured on a 7-point rating scale, with 1 representing the lowest level and 7 the highest level. [Appendix A](#) presents a detailed list of the indicators used for construct measurement.

Because we relied on 7-point rating scales for all our focal constructs (among other reasons), our measurement may contain common method variance. In light of the questionable performance of post hoc statistical control strategies ([Conway & Lance, 2010](#)), we opted for a different approach. We followed the suggestion of [Eggert, Henseler, and Hollmann \(2012\)](#) and simulated the potential common method bias in our path coefficients. [Table 2](#) shows the results of this “what-if” analysis. If substantial common method variance was present, the coefficients for the linear effects would decrease. Nevertheless, although we could observe some quantitative differences, the small changes in the path coefficients would not make us draw different conclusions. Our simulation did not include the interaction; however, because interaction effects can be deflated by common method variance but cannot be artifacts of it ([Siemsen, Roth, & Oliveira, 2010](#)), we can be confident that if we found support for H3, our conclusion would not be affected by common method variance. In sum, we can conclude that even if common method variance were present, it would not be harmful for our conclusions.

3.3. Method

We used partial least squares path modeling (PLS), as implemented in ADANCO 1.0 ([Henseler & Dijkstra, 2014](#)) to assess the reliability and validity of measurement, to estimate the model coefficients, and to test the hypotheses. PLS was developed by Herman Wold at the end of the 1960s and has undergone several improvements (in particular by [Lohmöller \(1989\)](#)). It is a widely accepted variance-based, descriptive, and prediction-oriented approach to structural equation modeling ([Hair, Ringle, & Sarstedt, 2011](#); [Hair, Sarstedt, Ringle, & Mena, 2012](#)). It is distribution-free and can be applied for exploratory and confirmatory research ([Chin, Marcolin, & Newsted, 2003](#); [Lohmöller, 1989](#)). A PLS path model is composed of a structural part, which specifies the relationships between latent variables, and a measurement part, which specifies the relationships between latent variables and their observed or manifest variables. In contrast to other structural equation modeling approaches, PLS defines weight relations that are used to estimate case values for the latent variables ([Chin et al., 2003](#)). PLS focuses on

Table 2
Examining potential common method bias.

Original estimate	Hypothetical estimate if the common method variance were...				
	5%	10%	15%	20%	25%
0.198	0.187	0.178	0.170	0.163	0.158
0.302	0.292	0.283	0.275	0.269	0.265

maximizing the dependent variables' variance that the independent variables can explain. Furthermore, PLS accommodates models that combine formative and reflective constructs, it is recommended for analyzing small to medium size samples, and it does not rely on distributional assumptions.

The analytical approach was threefold. First the validity and reliability of our measurements were assessed, second a confirmatory composite analysis was conducted, and finally we tested our hypotheses.

The reflective measurement instruments were assessed for reliability and validity by ensuring that they described their corresponding constructs adequately (see [Table 3](#)). Internal consistency reliability is assured for all reflective constructs because the composite reliability reaches or exceeds 0.8 ([Churchill, 1979](#)). There is evidence of convergent validity based on the reflective constructs' average variance extracted (AVE). The AVE of all the unidimensional constructs ranged between 0.598 and 0.761, which is well above the criterion of 0.5 ([Fornell & Larcker, 1981](#)). The reflective constructs can thus be regarded as unidimensional. Comparisons between the AVE and the largest squared inter-construct correlations reveal that discriminant validity in the form of the Fornell–Larcker criterion is met in all cases. The construct correlation matrices are shown in [Appendix B](#).

Next, we used PLS to conduct a confirmatory composite analysis ([Henseler et al., 2014](#)). Confirmatory composite analysis allows for an overall model assessment. The measurement model yielded a p-value of 0.070. Because the p-value is larger than 0.05, we cannot reject the hypothesis that the composite factor model adequately captures the covariances between indicators of different constructs. The good model fit is supported by two approximate measures of fit: a standardized root mean square residual (SRMR) of 0.059 and a normed fit index (NFI) of 0.865.

Subsequent to the confirmatory composite analysis, we addressed how to consolidate the supply-base orientation dimensions into a second-order construct. [Diamantopoulos and Winklhofer \(2001\)](#) argue that, often, the reflective specifications of latent variables prevail mistakenly. In reflective specifications, second-order constructs are assumed to cause their dimensions rather than being caused by them. Formative specifications view a second-order construct as caused by its components. These components, which determine the construct, need not be highly correlated with one another. Accordingly, we conceptualized supply-base orientation as a second-order formative construct composed by supply-base structuring, supply-base focusing and a long-term relationship focus. Because a firm may well score high on its supply-base structuring activities while scoring low on its supply-base focus activities, a formative measurement approach (a Type II model in the notation of [Jarvis, MacKenzie, and Podsakoff, 2003](#)) is adopted to capture the meaning of a supply-base orientation. Technically, we applied the repeated-indicators approach suggested by [Lohmöller \(1989\)](#) and [Wetzels, Odekerken-Schröder, and Van Oppen \(2009\)](#). In analogy, we modeled customer orientation as a second-order construct that consists of customer sensing and customer responsiveness. To validate whether the second-order structure is an adequate representation, we also estimated a model with first-order constructs only (see [Appendix C](#)).

Finally, we used PLS to test our research hypotheses. This involved both the direct effects, i.e., the effects that corresponded to H1 and H2, and the interaction effect, i.e., the effect specified by H3. To test the hypothesized interaction effect, we relied on the so-called two-stage approach, which is recommended in cases of formative measurement ([Henseler & Fassott, 2010](#)). Moreover, we applied orthogonalization to improve the interpretability of the path coefficients ([Henseler & Chin, 2010](#)). In essence, the product of the interacting latent variable scores was regressed on the constituting latent variable scores, and the standardized residual served as interaction term. In all models, we included four control variables: industry, firm size, function of the respondent, and whether a firm offers products or services. Because all control variables are of a categorical nature, we modeled them as formative indices composed of dummy variables. “Manufacturing” served as reference category for industry, “purchasing manager” as reference category for

Table 3
Measurement model assessment.

Construct	Indicators	Composite reliability	Average variance extracted	Largest squared correlation
Supply-base structuring	5	0.887	0.613	0.430
Supply-base focusing	2	0.864	0.761	0.266
Long-term relationship focus	5	0.895	0.631	0.430
Supply-base orientation	12	0.913	(not unidimensional)	0.257
Customer responsiveness	3	0.891	0.733	0.408
Customer sensing	3	0.898	0.746	0.408
Customer orientation	6	0.901	(not unidimensional)	0.251
Performance	7		(formative scale)	0.209

a respondent's function, and the smallest category of turnover as reference category for firm size.

4. Results

We estimated two models, each of which serves a substantial and/or a technical purpose. Model 1 helps identify the second-order construct. It provides a first test of the composition of customer orientation and supply-base orientation and of their consequences for the buying firm, as hypothesized in H₁ and H₂. Model 2 is used to examine the interaction effect made up of customer orientation and supply-base orientation

The path coefficients obtained for the two models are reported in Table 4. This table also contains the inference statistics based on bootstrapping with 1000 bootstrap samples and no sign change option selected. We review the results model by model.

Model 1's first important finding refers to the role of customer orientation's two components. Both customer sensing ($\beta = 0.562$, $p < 0.001$) and customer responsiveness ($\beta = 0.543$, $p < 0.001$ significantly) form customer orientation. Model 1 also uncovers the performance implications of customer orientation: Customer orientation increases a firm's performance ($\beta = 0.198$, $p < 0.01$). This finding indicates that H₁ is supported. Another finding of Model 1 is the role of supply-base orientation's three components. We find that network structuring ($\beta = 0.475$, $p < 0.001$), supply-base focusing ($\beta = 0.189$, $p < 0.001$) and a long-term relationship focus ($\beta = 0.503$, $p < 0.001$) contribute significantly to the composition of supply-base orientation. The effect of supply-base orientation on performance is also significant ($\beta = 0.303$, $p < 0.001$), which means that H₂ is supported. Although the effect of supply-base orientation on performance appears greater than the effect of customer orientation, we do not find statistical support for such a conjecture. The 95% bootstrap confidence interval of the difference between the two coefficients is $[-0.132; 0.295]$; therefore, we cannot exclude the possibility that the difference in the size of the two coefficients is

nil. The R² value for performance is 0.293 (adjusted R²: 0.268). None of the control variables has a significant influence on performance.

Model 2 reduces the effects of supply-base orientation and customer orientation on operational performance. As a consequence of the orthogonalization, we find that the coefficients of the simple effects of customer orientation and supply-base orientation, as estimated in Model 2, resemble the coefficients of the respective direct effects obtained for Model 1. Their significance levels also remain the same. The added value of Model 2 lies in the interaction term, the orthogonalized product of customer orientation, and supply-base orientation has a positive ($\beta = 0.230$) and significant ($p < 0.001$) effect. Therefore, H₃ is supported. Including the interaction term increases the R² value by 0.042 to a value of 0.335 (adjusted R²: 0.3068). The effect size f^2 of the interaction effect is thus 0.0628, which can be regarded as substantial (Chin et al., 2003).

5. Discussion of results and managerial implications

5.1. Theoretical contribution

The objective of this research was to provide insight on how strategic orientations such as customer orientation and supply-base orientation interact and affect performance. We also explored whether these strategic assets comprise a set of capabilities that have to be deployed as a bundle of capabilities. The significance of both orientations and their interplay is underscored, given that firms that utilize these strategic assets can achieve synergies to increase performance. To this end, our findings provide several insights that contribute to the marketing strategy and dynamic capability literature.

Customer orientation and supply-base orientation are both drivers of firm performance. The importance of customer orientation lies in the fact that it is the starting point of other processes; satisfying customer needs is the central purpose of any business, and it can shorten the time to market. It permits a firm to obtain real-time information, rich content information, and knowledge of customers, which can be used to coordinate its supply base to better serve customers (Kirca et al., 2005; Liu et al., 2013). The importance of supply-base orientation lies in the fact that supply is responsible for more than half of a firm's production costs (Chen et al., 2004). It facilitates beneficial interdependencies among a firm's functions, such as product development and marketing, and helps build collaborative relationships with suppliers to improve operational performance. It enables firms, in conjunction with their suppliers, to redesign processes and routines at the firm's boundaries and thereby be more responsive to customers' demands and needs. However, as our results reveal, firms that have both orientations at the forefront of management thinking create the best environment for firms' performance. A firm with a well-developed customer orientation may not fully capitalize this asset when it has a poorly developed supply-base orientation; i.e., it cannot enhance its operational efficiency and efficacy in response to its customer information. Vice versa, a firm with a well-developed supply-base orientation may not fully capitalize on this asset when it lacks a customer orientation; i.e., without the proper and timely information and knowledge of customers' needs and trends, it cannot enhance its responsiveness. Nevertheless, we contend that customer orientation has to be developed because it is the driving asset that leverages the

Table 4
Path coefficients and significance tests.

Dependent variable	Model 1		Model 2	
	Coefficient	Sig.	Coefficient	Sig.
Customer orientation				
Customer sensing	0.562	***		
Customer responsiveness	0.543	***		
Supply-base orientation				
Supply-base focusing	0.189	***		
Supply-base structuring	0.475	***		
Long-term relationship focus	0.503	***		
Performance				
Customer orientation	0.198	**	0.221	**
Supply-base orientation	0.303	***	0.363	***
Customer orientation \times supply-base orientation			0.230	***
Control variable 1: Firm size	0.132	n.s.	0.139	n.s.
Control variable 2: Corporate function	-0.116	n.s.	-0.115	n.s.
Control variable 3: Industry	-0.100	n.s.	-0.111	n.s.
Control variable 4: Production	-0.083	n.s.	-0.148	°

Significance levels: *** $p < 0.001$; ** $p < 0.01$; * $p < 0.05$; ° $p < 0.10$; n.s. not significant.

value of other strategic assets (Hsieh, Tsai, & Wang, 2008; Trainor, Rapp, Beitelspacher, & Schillewaert, 2011); this notion suggests that it directs supply-base collaborative actions that aim to enhance performance.

Former studies have noted that there are other orientations beyond the traditional view of market orientation that may lead to strong firm performance (e.g. Gatignon & Xuereb, 1997; Noble et al., 2002; Zhou et al., 2005). In addition to the fact that firms that possess different strategic orientations may be better suited to succeed in various competitive environments (Noble et al., 2002), the findings of this study reveal that different strategic orientations within a firm can reinforce each other. This finding provides additional support for the view that a broadened perspective is needed for the consideration of the relationship between strategic orientations and performance.

The findings of this study demonstrate that both strategic orientations affect performance. The question is whether they can generate sustainable competitive advantage. If discrete activities or practices of marketing and supply management are observable and transferable from one organizational context to another, they may be easily duplicated and thus may not generate a sustainable competitive advantage for any one firm (Barney, 1991). Instead, the nature of customer orientation and supply-base orientation, each comprising a set of capabilities, possesses the characteristics of “asset interconnectedness”, which creates causal ambiguity, making it particularly difficult for competing firms to disentangle the source of a firm’s observed performance advantage (Teece & Maritan, 2007). It is the unique combination of these practices or activities and their configuration that may inhibit the imitation of the firm’s competitive advantage (Day, 1994; Teece & Maritan, 2007). This can be illustrated with the metaphor of crispy bread. It is the configuration of water, wheat and eggs that determines the bread’s crispness; although important, no ingredient can individually create crispness.

The findings of our study answer the call to examine the complementarity of resources and capabilities for understanding resource-based performance (Morgan et al., 2009). A strategic asset has only potential value, and realizing this potential requires alignment with other assets (Ketchen, Hult, & Slater, 2007). In addition, as conceptualized and assessed in our study, customer orientation and supply-base orientation are not inherently dynamic; however, dynamic capability theory focuses particular attention on the ways in which firms configure and deploy their resources to reflect the needs of the business environment (Eisenhardt & Martin, 2000; Teece & Maritan, 2007). Customer orientation and supply-base orientation would both seem to be fundamental elements in enabling firms to acquire and deploy resources in ways that reflect the business environment (Teece & Maritan, 2007). Because dynamic capability theory has a relatively weak empirical base (Morgan et al., 2009; Newbert, 2007), our study contributes at least to some extent to the need for empirical support.

5.2. Managerial implications

The findings of this study have important implications for managerial practice. With the increasing intensity of market competition, (customer) responsiveness is becoming increasingly important to firms. This study indicates that different strategic assets and their configuration can help improve performance. The practical value of these findings lies in a better understanding how both customer orientation and supply-base orientation affect performance through the configuration of their underlying capabilities. For example, when General Motors reduced their supplier base, in keeping with the emerging trend in the automobile industry in the early 1990s, it forced its suppliers to implement cost and price reductions. Suppliers reacted by cutting costs, compromising quality and delaying production schedules, which in turn led to poor customer responsiveness and a greater loss in market share for the company (Moffett & Youngdahl, 1999). On the contrary, Toyota’s close cooperation with its suppliers led to an enhancement of Toyota’s competitive position and that of its suppliers in the global automobile industry (Dyer & Nobeoka, 2000). Instead of being associated with a disrupted buyer–supplier relationship,

this result might be a sign that General Motors had not invested in relationship-specific assets to facilitate communication and knowledge exchange and to deepen trust and cooperation with their suppliers to achieve a durable collaborative advantage.

For a manager in a firm with a strong customer orientation, there is a real advantage of building stronger supplier relationships; these relationships will pay off in terms of the firm’s performance. For managers in an organization with strong supplier relationships, there is a real advantage of developing a customer orientation; this orientation will not only pay off in terms of the firm’s performance, but it will also feed back into the firm’s supply-base orientation efficacy. Both orientations will help firms respond faster to both customer- and supplier related issues, thereby facilitating a synergistic effect. It would follow that management dedicates sufficient resources to developing these strategic assets. Two specific groups of mechanisms may be used: integrating mechanisms and institutionalizing mechanisms. The first aim to share individually held knowledge in groups; such social interaction is critical to generate variation in extant practices. These mechanisms help feed forward new insights. Examples are the exchange of best practices, the comparisons and evaluations of suppliers, evaluations of customers, and the use of metrics. Institutionalization mechanisms help embed behavior and decision-making in supply and marketing management; these include rewards for supply and account managers tied to relationship performance, formally structured knowledge exchanges between managers, and key supplier and account programs.

5.3. Limitations and directions for future research

The results and contributions of the current study must be evaluated in light of its limitations. First, although all constructs exhibit acceptable validity and reliability for the purpose of our study, future research should refine and consider adding new indicators that more fully tap the constructs (e.g., supply-base focus). It should also be noted that both customer orientation and supply-base orientation consist of multiple capabilities. Future research may need to include other capabilities, e.g., supplier selection or customer selection, to assess which management capabilities are most pivotal and complementary. Second, our study focuses on two specific orientations. Future research may include more strategic orientations to adopt a more holistic lens, such as a production orientation or an innovation orientation, for the consideration of the relationship between strategic orientations and performance. Third, although we included some control variables, we did not address other contingencies thought to affect performance. It is up to future research to further substantiate our findings. Fourth, this study applied a focal firm rather than a specific supply chain relationship as the unit of analysis. Although this approach is widely applied, it does not provide insight into how the actions of buyers–suppliers jointly affect performance. For example, it does not provide insight into whether suppliers and buyers had developed capabilities to collaborate more effectively. Such data could provide additional insights in the context of a supply chain. Fifth, longitudinal data would be useful to examine how changes in the configuration of customer and supply management capabilities affect performance as firms evolve organically and in response to environmental changes. Sixth, the present study measured firm performance by the subjective perceptions of key respondents, who were mainly purchasing managers. A more balanced approach would be to include managers from various other functions (e.g. marketing, production, human resource management). In general, future studies may consider including objective measures of firm performance. Finally, the research context covers firms from a list of NEVI members. Although this sample covers a wide range of firms in terms of industry membership and size variables, future research may need to include a broader population of firms and other domestic and international firms to validate and to generalize findings. Despite these limitations, this study paves the way for researchers and managers to more fully capitalize on the potential of strategic orientations by fostering customer and supply management capabilities.

Appendix A. Operationalization of study constructs

Construct	Indicators with anchors: 1 totally disagree..... totally agree 7	Mean	Std. dev.
Supply-base structuring	- We have a permeable organizational boundary that facilitates better communication and/or relationships with our key suppliers.	4.49	1.45
	- Our relationship with the suppliers is based on interdependence rather than power.	4.65	1.37
	- Our organizational structure can be characterized as a flexible, value-adding network.	4.64	1.39
	- Our organizational/supply network structure does not involve power-based relationships.	4.48	1.42
Supply-base focusing	- We communicate with our suppliers at different management levels.	5.20	1.44
	- We rely on a small number of high-quality suppliers.	4.52	1.52
	- We maintain close relationships with a limited pool of suppliers.	5.11	1.38
Long-term relationship focus	- We expect our relationships with key suppliers to last a long time.	5.97	1.02
	- We work with key suppliers to improve their quality in the long run.	5.64	1.14
	- The suppliers regard our relationship as a long-term alliance.	5.84	1.02
	- We view our suppliers as an extension of our company.	5.17	1.26
Customer responsiveness	- We give key suppliers a fair profit share.	4.70	1.42
	- We anticipate and respond to customers' evolving needs and wants.	5.43	1.24
	- We emphasize the evaluation of formal and informal customer complaints.	5.20	1.33
	- We follow up with customers for quality/service feedback.	5.39	1.17
Customer sensing	- We interact with customers to set reliability responsiveness and other standards.	5.92	1.08
	- Satisfying customer needs is the central purpose of our business.	5.69	1.10
	- A customer focus is reflected in our business planning.	5.72	1.02
Performance	Our.... has...		
	- Volume flexibility	4.81	1.03
	- Delivery speed	4.85	0.97
	- Delivery reliability/dependability	4.81	0.98
	- Product conformance to specifications	5.04	1.02
	- Rapid confirmation of customer orders	4.68	1.05
	- Rapid handling of customer complaints	4.61	1.01
	- Customer satisfaction	4.84	1.01

Appendix B. Construct CORRELATIONS

Construct	1	2	3	4	5	6	7	8	9	10	11
1. Customer orientation	1.000										
2. Customer sensing	0.909	1.000									
3. Customer responsiveness	0.909	0.639	1.000								
4. Supply-base orientation	0.486	0.507	0.370	1.000							
5. Supply-base focusing	0.276	0.257	0.243	0.645	1.000						
6. Long-term Relationship focus	0.439	0.481	0.310	0.912	0.516	1.000					
7. Supply-base structuring	0.448	0.455	0.353	0.883	0.414	0.655	1.000				
8. Control variable 1: Firm size	0.069	0.118	0.006	0.092	-0.041	0.098	0.105	1.000			
9. Control variable 2: Corporate function	-0.058	-0.031	-0.075	-0.158	-0.119	-0.103	-0.176	-0.029	1.000		
10. Control variable 3: Industry	-0.124	-0.136	-0.087	-0.211	-0.117	-0.191	-0.196	-0.284	0.191	1.000	
11. Control variable 4: Production	-0.141	-0.119	-0.137	-0.059	-0.111	-0.035	-0.044	0.146	-0.063	-0.132	1.000
12. Performance	0.385	0.392	0.302	0.455	0.389	0.357	0.424	0.193	-0.193	-0.237	-0.089

Appendix C. Path coefficients and significance tests for the alternative model with first-order constructs only

Direct effect on performance	Coefficient	Sig.
Customer sensing	0.187	°
Customer responsiveness	0.052	°
Supply-base structuring	0.162	°
Supply-base focusing	0.306	***
Long-term relationship focus	-0.041	
Supply-base structuring × customer sensing	-0.063	
Supply-base focusing × customer sensing	-0.093	
Long-term relationship focus × customer sensing	0.212	
Supply-base structuring × customer responsiveness	0.227	°
Supply-base focusing × customer responsiveness	-0.008	
Long-term relationship focus × customer responsiveness	-0.100	
Industry	-0.121	
Firm size	0.153	
Corporate function	-0.072	
Production	-0.125	*
R ²	0.391	

Significance levels: *** p < 0.001; ** p < 0.01; * p < 0.05; ° p < 0.10; n.s. not significant.

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