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Customer focus, supply-chain relational capabilities and performance

Evidence from US manufacturing industries

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Abstract

Purpose – This paper aims to investigate the extent to which a firm's customer focus drives several interlinked facets of supply chain management and their relationships to customer service and financial performance.

Design/methodology/approach – Drawing on diverse streams of research, the authors develop and test an integrated model in which customer focus is proposed to foster supply-chain relational capabilities, leading to beneficial performance outcomes. This study's empirical validity is enhanced by collecting data from over 200 US manufacturing firms and testing the model using SEM.

Findings – This empirical investigation documents significant positive relationships between (a) customer focus and supply-chain relational capabilities, (b) customer focus and customer service, (c) supply-chain relational capabilities and customer service, and (d) customer service and financial performance.

Practical implications – This study holds the important implication for managers that, in order to be effective, supply chain partners must reconfigure their supply chains to be more customer oriented and continually develop and leverage the relational competencies in order to enhance firm competitiveness.

Originality/value – Interdisciplinary in nature, this study is one of the first to conduct empirical supply chain management research using multiple and complementary theoretical perspectives, including strategic management and relationship marketing in order to gain a better understanding of the nuances involved in fostering strategic collaboration among supply chain partners.

Keywords Supply chain management, Customer focus, Relational capabilities, Financial performance

Paper type Research paper

1. Introduction

Strategic management and marketing scholars, among others, have amply documented how customer focus is a key aspect of firm strategy and performance (e.g. Christensen and Bower, 1996; Hult and Ketchen, 2001; Kohli and Jaworski, 1990; Lengnick-Hall, 1996). For example, Abell (1980) suggested the need for business firms to adopt a "customer-oriented" mission statement that addresses the questions of who is being

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satisfied (customer groups), what is being satisfied (customer needs), and how are customer needs being satisfied (distinctive competencies). Arguably, a customer-oriented business mission is better than a "product-oriented" one as it provides a more robust basis for value creation and value capture (Bowman and Ambrosini, 2000; Hill and Jones, 2004; Markides, 1999). By encouraging firms to view customers not only as sources of firm revenues and profits, but also as resources, co-producers, and users, among others (Lengnick-Hall, 1996), a customer-oriented view provides a broader basis for gaining and sustaining competitive advantage. As noted by Gulati (2007, p. 100), it is increasingly important for business executives and researchers to embrace a "systematic, ongoing change to help organizations transcend existing product-based or geographic silos and, in some cases, replace them with customer-oriented ones."

Research investigating the strategic role of customer focus has largely been conducted at the firm level of analysis. For example, in a debate on whether "customer-orientation" or "market-orientation" accounts for greater firm competitiveness (e.g. Connor, 1999; Slater and Narver, 1998; Hult *et al.*, 2005) researchers have typically assumed the firm as a unit of analysis. This is understandable, given the prevailing orientation of strategy researchers to uncover and document firm-level sources of sustainable competitive advantage (e.g. Barney, 1991; Peteraf and Barney, 2003; Porter, 1985). Given that firms are increasingly seeking to gain and sustain strategic advantage through working collaboratively with supply-chain partners, some researchers have underscored the importance of documenting additional sources of strategic advantage (Kanter, 1994) at the inter-organizational level of analysis (e.g. Gulati, 1998; Gulati *et al.*, 2000; Defee and Fugate, 2010).

What has not been addressed, however, is the extent to which customer focus drives supply-chain relational capabilities and performance. To the extent that customer focus has been addressed, researchers have typically conceptualized it as an "outcome" variable (e.g. Das and Narasimhan, 2000; Hines, 1996). One exception is Sousa (2003), who investigated a wide range of "customer focus practices" in supply-chain management context. Although documenting customer focus practices in supply chain is important, we argue that discrete practices, *per se* can be easily duplicated, and, therefore, may not confer durable competitive advantages for supply-chain partners (e.g. Barney, 1991; Lado and Wilson, 1994). Additionally, without a coherent theoretical framework, it is difficult to distinguish between the set of customer-focus practices that are truly value-enhancing and those that are not.

Our aim in this paper is to empirically investigate the extent to which customer focus drives supply-chain relational capabilities and performance. As part of a broader strategic orientation (Gatignon and Xuereb, 1997; Venkatraman, 1989) construct, customer focus encompasses a "commitment to customers such that customers and firms share interdependencies, values, and strategies over the long term" (Lengnick-Hall, 1996, p. 792). Arguably, a customer focus provides the basis for mobilizing and deploying relational capabilities within the context of buyer-supplier relationships (Dyer and Singh, 1998; Kale *et al.*, 2000; Paulraj *et al.*, 2008)[1]. However, researchers have yet to provide empirical corroboration for this theoretical assertion.

Thus, we propose and test a model that places customer focus at the forefront of the supply-chain system. Specifically, customer focus is proposed to drive supply-chain relational capabilities and financial performance. In prior work, researchers have empirically documented the relationships among purchasing, supply management, and financial performance (e.g. Chen *et al.*, 2004). Additionally, Hult *et al.* (2007) proposed the notion of "strategic supply management" to explain how supply-chain

partners gain a sustainable competitive advantage. We extend this line of research by empirically documenting the role of customer focus in fostering supply-chain relational capabilities. The empirical context for our study is a sample of US manufacturing firms and their relationships with supplier firms[2].

We empirically test our hypotheses using structural equation modeling. Such an investigation would go a long way in corroborating the assertion that supply-chain management requires a fundamental shift in orientation from an internal, production-oriented mindset to an external, customer-oriented mindset (e.g. Gulati, 2007; Jacques, 2007). Furthermore, it would lend credence to the view that in order to maintain strategic viability and vitality, supply-chain partners must continually develop and leverage the capabilities necessary for creating and delivering value to customers (e.g. Christensen and Bower, 1996; Day, 1994; Kahn *et al.*, 2006).

The rest of our paper is structured as follows. In the following section, we briefly review the related literature in supply-chain management to ground our proposed model linking customer focus, supply-chain relational capabilities, customer service, and financial performance. Then, we develop the logic of the substantive relationships among these variables and offer testable hypotheses. This is followed by an explanation of our research methodology, including data collection procedure, construct measurement, and hypothesis testing. We then report the results of our analysis, and conclude the paper with a discussion of our study findings, highlight some limitations of the paper, and offer suggestions for future research and practice.

2. Conceptual background and hypotheses

2.1 Theoretical background

The construct of customer focus is a staple of relationship marketing, which refers to "the process of identifying and establishing, maintaining, enhancing, and when necessary terminating relationships with customers and other stakeholders" (Gronroos, 2004, p. 101). In this vein, both marketing theorists and practitioners have extolled the virtues of getting close to the customer, of integrating operations across functions with customers in mind, of conducting customer surveys in order to better track how well customer needs and wants are being met, and of building long-term relationships with customers (e.g. Danneels, 2003; Day, 1994; Kohli and Jaworski, 1990). As Moorman and Rust (1999) have documented, the marketing function positively and significantly contributes to a firm's financial performance, customer relationship performance, and new product performance.

While it is generally agreed that firm profits result from how well customer needs and wants are satisfied, the path from customer focus and firm profitability is often not a straightforward one as is evident from the mixed empirical findings in the literature (see, e.g. Noble *et al.* (2002) for a significant positive link, and Deshpande *et al.* (1993) for a non-significant link between customer orientation and firm performance). As expected, this line of research has attracted the interest of scholars to further develop the customer-orientation (focus) construct and more carefully document its link to firm performance. Some scholars view it as part of a larger construct (e.g. Ketchen *et al.*, 2007; Hult *et al.*, 2005), while others focus on specifying and testing for moderating (e.g. Gatignon and Xuereb, 1997) or mediating (Noble *et al.*, 2002) effects of other variables (such as environmental uncertainty and organization culture). Although the strategic role of customer focus has been recognized, little empirical work exists documenting the role customer focus plays in fostering relational capabilities at the dyadic, inter-organizational level of analysis. Therefore, we propose and test a model

in which customer focus drives supply-chain relational capabilities and financial performance.

2.2 Model and hypotheses

Figure 1 depicts the constructs of our model and their relationships. The model integrates literature in supply-chain management, strategic management, and marketing. Specifically, based on literature in relationship marketing and strategy (Kohli and Jaworski, 1990; Gatignon and Xuereb, 1997; Groonroos, 2000; Hunt and Morgan, 1994), we propose that customer focus is a key driver (i.e. antecedent) of supply-chain relational capabilities. Because satisfying customers' needs and wants is critical to business success (Doyle, 1994), and customer service is a key component of competitive advantage (e.g. Hill and Jones, 2004), we argue, customer focus may enable supply-chain partners to achieve competitive advantage by fostering supply-chain relational capabilities. Scholars have documented how a firm's ability to reconfigure and realign supply chains in order to effectively track customer needs and wants, and deliver greater value is key to gaining and sustaining competitiveness in today's global environment (Carson *et al.*, 1998; Doyle, 1994; Gulati, 2007). Additionally, we argue that the extent to which customer focus enhances customer service will ultimately be judged by its contribution to the "bottom line" (i.e. financial performance).

Customer focus and supply-chain relational capabilities. A key tenet of strategic management theory is that a firm's strategy drives the development and deployment of rent-yielding resources and capabilities (or competencies). For example, Lado and Wilson (1994, p. 703) note that the firm's strategy "provides a cognitive map that supplies the underlying logic for combining, deploying, and mobilizing resources within the [supply chain], and focuses and channels organizational competencies towards effective accomplishment of organizational goals." As a facet of organizational strategy (Gatignon and Xuereb, 1997), customer focus provides a basis for developing and deploying supply-chain relational capabilities, referring to the stock of knowledge-based competencies for effectively managing a firm's relationship with its supply chain partners (Chen *et al.*, 2004). These capabilities include the adoption of a long-term relationship; fostering of collaborative communication; design and use of cross-functional teams; and involvement of supply-chain partners in order to create and deliver strategic value to customers and other stakeholders (e.g. Chen *et al.*, 2004; Gronroos, 2004; Kahn *et al.*, 2006). These relational capabilities also dovetail with

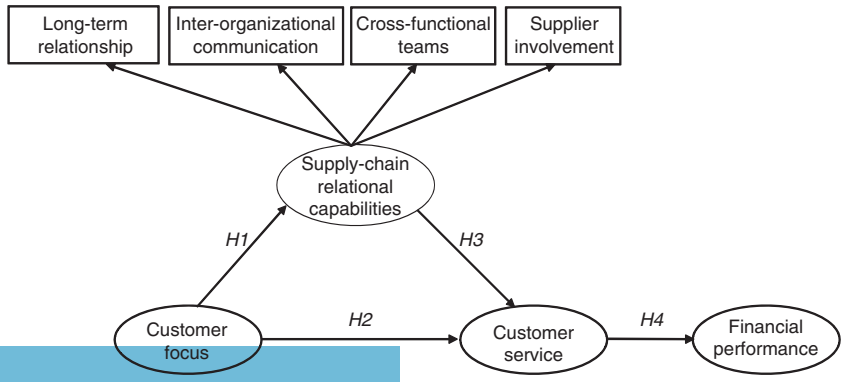


Figure 1.
Proposed model

Gulati's (2007) "four Cs" – coordination, cooperation, capability, and connection – for reconfiguring supply chains around customer needs. Thus, customer focus not only constitutes a "distinctive competence" in and of itself (e.g. Lado and Wilson, 1994; Prahalad and Hamel, 1990), but it also enables complex interactions among other supply-chain relational capabilities in order to generate sustainable strategic advantage. Despite this realization, there is little empirical work that has systematically documented the relationship between customer focus and supply-chain relational capabilities. Thus, we hypothesize:

H1. Customer focus is positively related to supply-chain relational capabilities.

Customer focus and customer service. Literature in relationship marketing has documented how a focus on customers is a key lever of firm competitiveness (e.g. Groonroos, 2000; Morgan and Hunt, 1994; Stewart, 1994). A focus on customers enables firms to increase the range of product or service attributes (Priem, 2007), thereby enhancing customers' perceived value and willingness to pay (Carson *et al.*, 1998; Ghemawat, 2001; Lewis, 1991). For example, researchers have documented how improved product and service quality enables companies to charge higher-price premiums for their products (Gummesson, 1995). Also, firms that emphasize relationship management will likely create satisfied and loyal customers (Christophe, 1986; Gronroos, 1980; Lewis, 1991; Stewart, 1994).

Creating and delivering value to customers also require that supply-chains partners anticipate the future customer needs and preferences and focus their competitive priorities to accomplish those needs and preferences (Hoekstra *et al.*, 1999). By making customers the central focus, supply chains can more effectively integrate the various activities and functions and strategically manage these to gain and sustain competitive advantage (Dyer, 1996; Dyer and Singh, 1998). Such integration may generate economic benefits in terms of reducing transaction costs, promoting cooperation and trust, and fostering knowledge development and utilization, among other things (Dyer and Hatch, 2006; Hult *et al.*, 2007; Lado *et al.*, 1997). Thus:

H2. Customer focus is positively related to customer service.

Supply-chain relational capabilities and customer service. We conceptualize supply-chain relational capabilities as a multidimensional construct, consisting of four first-order constructs:

(1) adoption of a long-term relationship approach;

(2) the fostering of collaborative communication;

(3) design and use of cross-functional teams; and

(4) involvement of supply chain partners (e.g. Chen *et al.*, 2004; Gronroos, 2004; Kahn *et al.*, 2006).

Because these theoretical dimensions have been discussed in previous studies (e.g. Chen and Paulraj, 2004), we only briefly discuss them below to motivate our hypothesis linking supply-chain relational capabilities and customer service.

When supply-chain partners adopt a long-term relationship approach, they are more likely to focus on knowledge development and exchange and increase investment

in "relationship-specific assets" (Dyer and Singh, 1998; Madhok and Tallman, 1998). In addition to long-term relationship, "collaborative communication" (Mohr *et al.*, 1996) enables supply-chain partners to exchange information and knowledge and facilitates joint problem solving (Carr and Pearson, 1999). It also fosters inter-organizational learning that is key to competitive success (Hult *et al.*, 2007; Powell *et al.*, 1996). Open and frequent communication may contribute to strategic advantage by promoting exploration (via knowledge development), and exploitation (via knowledge utilization) (see, e.g. Lewin and Volberda, 1999); such communication may be the solution to the problem of "internal stickiness" that often frustrates knowledge transfer and utilization within and across firm boundaries (e.g. Szulanski, 1996; Kotabe *et al.*, 2003; Nonaka and Tekeuchi, 1995; Takeishi, 2001). Additionally, frequent exchange of information on strategic and operational matters helps to build trust and cooperation among supply-chain partners (Lengnick-Hall, 1996) and reduce dysfunctional conflict (Morgan and Hunt, 1994), thereby leading to mutual benefits.

Furthermore, researchers have documented how the use of cross-functional teams is a key to managing supply chains (Chen and Paulraj, 2004; Helfert and Vith, 1999). By pooling resources from various areas and broadening perspectives, cross-functional teams enable supply-chain partners to solve a wide range of problems and address complex issues affecting performance (Denison *et al.*, 1996; Hinsz *et al.*, 1997; Keller, 2001). Consequently, the use of cross-functional teams enhances product design, cost reduction, total quality initiatives, and knowledge creation (Burt, 1989; Nonaka and Tekeuchi, 1995).

Finally, we include supplier involvement as a component of supply-chain relational capabilities, as researchers have documented its positive link to new product development (Clark and Fujimoto, 1991; Helper, 1991). Involving suppliers in product development not only alleviates quality and lead-time problems, but also enables the buying firm to access and utilize the supplier's competencies for mutual benefits (Takeishi, 2001). Additionally, through the involvement of suppliers in other strategic as well as operational efforts, the supply-chain partners will be able to develop a greater understanding that ultimately enhances their prospects for strategic viability and vitality (Vonderembse and Tracey, 1999; Tracey and Tan, 2001). Based on this discussion, we submit the following hypothesis for testing:

H3. Supply-chain relational capabilities are positively related to customer service.

Customer service and financial performance. Literature in supply-chain management (e.g. Chen *et al.*, 2004), strategic management (e.g. Hill and Jones, 2004), and marketing (e.g. Stalk and Hout, 1990, Ward *et al.*, 1995) has documented how customer service positively contributes to superior firm performance. For example, Stalk and Hout (1990) discuss four kinds of benefits resulting from becoming responsive to customer needs:

(1) customers are more loyal;

(2) customers will pay a premium;

(3) customers will buy more goods and services; and

(4) the firm becomes strategically advantaged when it serves the demanding customer through continual improvement of its product-delivery system.

To the extent that customer service is a key component of competitive advantage (Hill and Jones, 2004), it would enhance the bottom line for supply-chain partners. Thus:

H4. Customer service is positively related to financial performance.

3. Methodology

3.1 Data collection

Data for this study were collected via a cross-sectional mail survey of a sample of firms in US manufacturing industries (with two-digit SIC codes between 34 and 39). Key respondents, consisting of purchasing executives (with titles such as vice president of purchasing, vice president of materials management, and chief purchasing officer) who are members of the Institute for Supply Management (ISM) were tapped as sources of data. The use of the ISM sampling frame is standard practice in supply-chain management research, as is the use of purchasing executives as key informants (e.g. Hult *et al.*, 2007). Seven-point Likert-type scales with anchors ranging from "strongly disagree" to "strongly agree" were used to measure the study variables. The outcome variable was measured in terms of change in performance over a three-year time period. Respondents were asked to indicate the extent of changes in several financial performance measures (such as return on investment, return on sales, and net income before taxes), with anchors ranging from "decreased significantly" to "increased significantly."

Before collecting the data, the survey instrument was pre-tested for content validity, following standard process (Dillman, 2000; Hult *et al.*, 2007). This involved obtaining feedback from experienced supply-chain researchers relating to clarity, accuracy, and readability of the survey items. Based on this feedback, the instrument was modified and some factors were dropped to reduce the length of the survey. Additional input regarding the practical relevance and usefulness of the refined survey instrument was obtained from 42 purchasing executives affiliated with the ISM for their input. Thus, the final survey instrument appropriately represented the content of the constructs used in the present investigation.

A modified version of Dillman's (2000) total design method was used to increase the response rate. A thousand surveys (including a cover letter and postage-paid return envelopes) were mailed to the respondents in two waves, followed by reminder postcards. Of these surveys, 48 were returned due to address discrepancies and 232 completed surveys were returned. However, 11 of these returned surveys were discarded due to incomplete information, resulting in an effective response rate of 23.2 percent (221/952). The final sample comprised of purchasing executives and included 35 presidents/vice presidents (16 percent), 138 directors (62 percent), 33 purchasing managers (15 percent), and 15 others (7 percent). The respondents worked primarily for medium to large firms with nearly 36 percent working for firms employing more than 1,000 employees. Nearly 60 percent of the firms had a gross income of greater than $100 million. The respondents were also distributed evenly among the six SIC codes selected.

3.2 Measures

The theoretical constructs were measured using indicators based on an extensive review of related literature. The construct "customer focus" is measured by indicators tapping the firm's ability to understand and respond to the evolving needs and wants of its customers (Ahire *et al.*, 1996; Carson *et al.*, 1998). "Long-term relationship" is

operationalized to include the extent to which the buying firm expects its relationships with key suppliers to last a long time, works closely with key suppliers to improve product quality, and views the suppliers as an extension of the company (Krause and Ellram, 1997; Shin *et al.*, 2000). Items tapping the construct "inter-organizational communication" include the extent to which the firm and its key suppliers share critical, sensitive information related to operational and strategic issues; exchange such information frequently, informally and/or in a timely manner; and maintain frequent face-to-face meetings (Krause and Ellram, 1997; Carr and Pearson, 1999; Carr and Smeltzer, 1999). "Cross-functional teams" include indicators that measure the extent to which the dyadic firms encouraged teamwork through collocation, joint-planning committees, task forces, as well as *ad hoc* teams (Krause and Ellram, 1997). The theoretical construct "supplier involvement" is operationalized using indicators tapping the membership/participation of key supplier in project teams, new production design and development (Ragatz *et al.*, 1997).

The construct of "customer service" is measured by indicators tapping the firm's ability to respond in a timely manner to the needs and wants of its customers through rapid confirmation of orders, rapid handling of customer complaints, and satisfy customers (Stalk and Hout, 1990). "Financial performance" for the buying firm is operationalized by items indicating the extent of changes in return on investment, profits as a percent of sales, and net income before tax over the past three years (Carr and Smeltzer, 1999; Jayaram *et al.*, 1999; Kathuria, 2000). Given that it is difficult to obtain objective data on operational and financial issues (Narasimhan and Das, 2001), we followed past researchers and relied on senior executives' perceptions of their companies' financial performance (e.g. Germain *et al.*, 2001; Venkatraman and Ramanujam, 1986). Apart from the customer focus and supply-chain relational capabilities, the performance measures (customer service and financial performance) could also be affected by the firm size. Accordingly, we have included number of employees and annual sales volume (Paulraj *et al.*, 2008) to control for any effects of firm size. Given their categorical operationalization, these control variables were included into the structural model as dummy variables. Number of employees was included in the model as a dummy variable with firms having less than or equal to 500 employees coded as 0 and firms having more than 500 employees coded as 1. Annual sales volume was included in the model as a dummy variable with firms having annual sales volume less than 100 millions coded as 0 and firms having annual sales volume greater than or equal to 100 millions coded as 1.

3.3 Non-response bias and common method variance

Following convention (Armstrong and Overton, 1977; Lambert and Harrington, 1990), we tested for non-response bias in the data by comparing the responses of early and late waves of returned surveys. This is based on the assumption that the opinions of late respondents are representative of the opinions of non-respondents. Along with the ten demographic variables, 30 randomly selected variables were also included in this analysis. The final sample was split into two, an early-wave group consisting of 123 responses, and a late-wave group consisting of 98 responses. Results of *t*-tests showed that there were no statistically significant differences (at the 99 percent confidence interval) between these groups. Therefore, we concluded that non-response bias might not pose a problem.

The potential for common method bias was assessed using the Harman's (1967) single factor approach. An unrotated factor analysis using the criterion of "the eigen

value greater than one" revealed six distinct factors that accounted for 69 percent of the variance. The first factor captured only 32 percent of the variance in the data. Since a single factor did not emerge and the first factor did not account for most of the variance, we conclude that common method variance might not be an issue (Doty and Glick, 1998; Podsakoff and Organ, 1986). This conclusion was further reinforced using the procedure recommended by Widaman (1985). In this approach, two different measurement models – one including just the traits (multiple factors) and another including a method factor in addition to the traits – were tested (Williams *et al.*, 1989; Podsakoff *et al.*, 2003). Though the method factor improved the model fit marginally (normed fit index (NFI) by 0.04, non-normed fit index (NNFI) by 0.03, comparative fit Index (CFI) by 0.03), it accounted only for 7.5 percent of the total variance, which is significantly less than the method variance (25 percent) observed by Williams *et al.* (1989). Taken together, these methodological results clearly suggest that common method variance might not be a concern.

3.4 Construct validity and reliability

Construct validity and unidimensionality were established using confirmatory factor analysis (CFA). The results of these analyses, as given in Appendix 1, suggest that all the indicators are significantly related to their underlying theoretical constructs, and thus establish construct validity (Gerbing and Anderson, 1988). During these analyses, indicators that did not have good psychometric properties were deleted from further consideration. Additionally, the Marsch and Hocevar's (1985) target coefficient (T) statistic was used to validate the second-order conceptualization of supply management. The target coefficient value, measured as a ratio of the chi-square value of the first-order factor model to that of the second-order factor model, is closer to 1 if the second-order representation is more appropriate. The target coefficient value was found to be 0.92, suggesting that the second-order representation accounts for higher variance among the respective first-order factors. In addition, the second-order factor loadings were all significant, suggesting that the second-order representation of supply-chain relational capabilities is superior.

Discriminant validity was established using CFA. Measurement models were constructed for all possible pairs of the theoretical constructs. These models were tested on each selected pair, allowing for correlation between the two constructs and fixing the correlation between the constructs at 1.0. A significant difference in chi-square values for the fixed and free solutions indicates the distinctiveness of the two constructs (Bagozzi *et al.*, 1991). In addition, the confidence interval for each pair of constructs was checked to see whether it included the value of 1 (Marcoulides, 1998). All the differences between the fixed and free solutions (in χ^2) were found to be quite significant. Furthermore, none of the confidence intervals included the value of 1. These results suggest that the constructs exhibit sufficient discriminant validity.

As an alternative test, we compared the squared correlation between two latent constructs to their average variance extracted (AVE) estimates (Fornell and Larcker, 1981). Based on the correlation coefficients given in Table I and the AVE values given in Appendix 2, we can conclude that none of the squared correlations is higher than the AVE for each individual construct. In fact, the highest squared correlation of 0.35 between communication and long-term relationship (with a correlation of 0.59) was much lower than the AVE for the two constructs (0.56 and 0.57). These results collectively provide strong evidence of discriminant validity among the theoretical constructs.

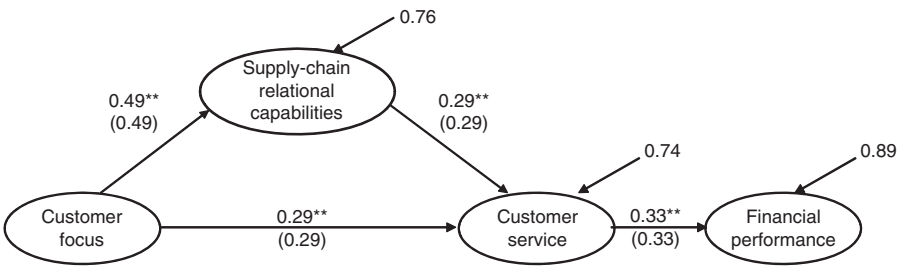
Reliability was assessed using Cronbach's alpha value (Cronbach, 1951; Nunnally and Bernstein, 1994). Alternatively, following Bagozzi and Yi (1988), we computed composite reliability (CR) scores to assess construct reliability. As reported in Appendix 1, all factors have Cronbach's alpha values and CRs greater than 0.70. In addition, the AVE values for all constructs exceed 0.50. The Cronbach's alpha values for the outcome variables (customer service and financial performance) reported in Appendix 2 show that these constructs exhibit adequate reliability as well. Taken together, the results from the instrument development process show that the theoretical constructs exhibit good psychometric properties.

3.5 Hypothesis testing and results

The hypothesized full structural model (Figure 1) was tested using LISREL, with variance-covariance matrices for the latent variables and residuals used as input. The summated-scores for the four first-order latent variables were used as indicators for the second-order supply-chain relational capabilities construct. The summary statistics and the correlation matrix for the constructs used in the model are presented in Table I. The model parameters were estimated using the method of maximum likelihood. The value for the model fit indices as given in Figure 2 shows that the model fits the data very well. The hypothesized relationships were tested using their associated *t*-statistics. Figure 2 presents the results of the hypothesized relationships among the study variables. All the hypothesized relationships were found to be significant at the 0.01 level.

Factors	Mean	SD	LR	CO	CT	SI	CF	CS	FP
Long-term relationship (LR)	5.690	0.934	1.00						
Inter-organizational communication (CO)	5.083	1.067	0.59	1.00					
Cross-functional teams (CT)	4.184	1.430	0.35	0.54	1.00				
Supplier tnvolvement (SI)	4.433	1.367	0.37	0.55	0.56	1.00			
Customer focus (CF)	5.814	0.875	0.40	0.35	0.36	0.26	1.00		
Customer service (CS)	4.989	0.893	0.32	0.31	0.21	0.30	0.39	1.00	
Financial performance (FP)	4.484	1.215	0.14	0.13	0.23	0.16	0.12	0.32	1.00

Table I.
Descriptive statistics



Notes: Model fit: NC=1.83; GFI=0.90; AGFI=0.86; NFI=0.91; NNFI=0.94; CFI=0.95; RMSR=0.07; RMSEA=0.06
Path fit: **t-values significant at $p<0.01$

Figure 2.
Final causal model

The hypotheses relating customer focus to supply-chain relational capabilities (*H1*) and to customer service (*H2*) were statistically significant. Specifically, the paths leading from customer focus to supply-chain relational capabilities ($b = 0.49$; $t = 5.84$; $p < 0.01$) and customer care ($b = 0.29$; $t = 3.33$; $p < 0.01$) were statistically significant. The parameter estimate for the path between supply-chain relational capabilities and customer service was significant ($b = 0.29$; $t = 3.21$; $p < 0.01$). The final hypothesis linking customer service and financial performance was also found to be significant ($b = 0.33$; $t = 4.37$; $p < 0.01$). All four paths estimated between the control variables and the performance constructs were found to be non-significant.

4. Discussion and conclusion

4.1 Discussion of study findings

Hult *et al.* (2005, p. 1179) have noted that "market orientation is not typically a 'lever' that can be pulled to directly increase performance," and they urged researchers to "cast market orientation within broader models, not simply link market orientation directly with performance." Building on this insight, and drawing on the relational view of strategic management, we have sought to empirically document the extent to which customer focus fosters supply-chain relational capabilities, which in turn may improve customer service and financial performance. Our empirical investigation documents significant positive relationships between customer focus and supply-chain relational capabilities (*H1*); customer focus and customer service (*H2*); supply-chain relational capabilities and customer service (*H3*); and customer service and financial performance (*H4*). Together, these results provide compelling evidence for the wisdom of reconfiguring supply chains to be more customer-oriented in order to enhance firm competitiveness (Gulati, 2007). These findings also provide empirical support for a systems-based conception of supply-chain relational capabilities as potent sources of durable strategic advantages for supply-chain partners (Dyer and Hatch, 2006; Lado and Wilson, 1994).

It is important to emphasize that our contribution lies in empirically documenting how customer focus drives the development and deployment of these capabilities within the context of buyer-supplier relationships. Thus, we extend prior work documenting the role of customer focus in fostering rent-yielding resources and capabilities (e.g. Hult *et al.*, 2005; Noble *et al.*, 2002) at the inter-firm level of analysis. Our study provides empirical support for the intuition that a supply-chain system will ultimately be judged to be effective to the extent that it creates and delivers greater value to customers at a profit (Lee and Billington, 1992; Narasimhan and Jayaram, 1998). It also responds to a recent call for integrating marketing and supply-chain strategies for the creation of superior customer value (Jüttner *et al.*, 2010).

Finally, this study also extends prior research documenting the role of supply management in enhancing the competitiveness of the supply-chain partners (e.g. Chen *et al.*, 2004; Paulraj *et al.*, 2008). The contribution herein lies in crystallizing the role of customer focus in the mobilization of supply-chain relational capabilities and their positive effects on customer service and financial performance. We realize, however, that in order to fully assess the extent to which these supply-chain outcomes are sustainable, a more systematic investigation of the costs involved in creating value relative to the benefits of appropriated value by the focal firm is needed (Bowman and Ambrosini, 2000; Ghosh and John, 1999). By empirically documenting the positive link between customer service and financial performance, we have attempted to bring

evidence to bear on the suggestion that contemporary supply chains need to become more customer focussed in order to enhance firm competitiveness (e.g. Gulati, 2007; Jacques, 2007).

4.2 Limitations and future research

Several limitations of this study should be considered when interpreting the findings of hypothesized relationships. These limitations also provide opportunities for future research. First, as with similar studies (e.g. Hult *et al.*, 2007), the cross-sectional nature of the data used in this study limits our ability to make causal inferences. In the future, researchers would need to conduct longitudinal investigations in order to more precisely assess the extent to which customer focus positively impacts the mobilization of relational competencies within supply chain contexts. Second, our reliance on key informants as sources of data for all of the variables under investigation makes it difficult to rule out any bias due to common method variance. Although we attempted to minimize this concern in this study, we suggest that in the future, researchers would need to use multiple respondents as key informants, and collect data for the independent and dependent variables from different sources. Also, we took the "buyer" side of the dyad, similar to prior research in supply-chain management (e.g. Paulraj *et al.*, 2008) and strategic management (e.g. Kale *et al.*, 2000), to tap responses to the survey items. In the future, researchers should tap both sides of the buyer-supplier dyads in order to fully assess the degree of convergence with respect to the variables under investigation.

Finally, it is important to reiterate that our key independent variable of interest – customer focus – is but only one of several facets of a broader construct of "strategic orientation" (e.g. Gatignon and Xuereb, 1997; Hult *et al.*, 2005; Kohli and Jaworski, 1990). Although we have documented the role of customer focus in fostering relational competencies within the context of buyer-supplier relationships, future research would need to include other dimensions of strategic orientation, such as competitor and technological orientations, in order to generate robust insights. Nonetheless, we believe this study makes a compelling case for viewing customer focus as a driver of relational capabilities within supply chains.

4.3 Conclusion

We extend the research in "strategic supply chain management" (Hult *et al.*, 2007) by documenting how customer focus drives supply-chain relational capabilities, leading to superior supply-chain performance (e.g. Paulraj *et al.*, 2008). Grounded within the relational view of strategic management, our model of "customer focussed supply chain management" documents how supply-chain relational capabilities engender competitive advantage. Interdisciplinary in nature, this study also reinforces the importance of conducting supply-chain management research using multiple and complementary theoretical perspectives, including strategic management and relationship marketing in order to gain a better understanding of the nuances involved in fostering strategic collaboration among supply chain partners. On the whole, our findings suggest that in order to be effective, supply-chain partners must continually develop and leverage the relational competencies needed to create and deliver superior value to customers. The fundamental shift in mindset from an internal, production-orientation to an external, customer-orientation as documented herein can help inform the ongoing quest for strategic advantage within the context of supply-chain management.

Notes

1. In prior research, the term "customer orientation" has been used to describe a strategic approach that firms take to meet the needs and wants of customers (e.g. Kohli and Jaworski, 1990, Narver and Slater, 1990, Hult and Ketchen, 2001). We prefer the term *customer focus* rather than customer orientation as it better captures our operational measures within the context of buyer-supplier relationships under investigation.
2. In our proposed model, the construct "supply-chain relational capabilities" is a second-order construct, consisting of several first-order relational constructs, such as long-term relationship, inter-organizational communication, cross-functional teams, and supplier involvement. These constructs are adapted from the work of Paulraj and colleagues (e.g. Chen and Paulraj, 2004; Chen *et al.*, 2004; Paulraj *et al.*, 2008). As a second-order construct, "supply-chain relational capabilities" is similar to "strategic supply management" of Hult *et al.* (2007). However, their construct includes dimensions, such as "culture of competitiveness" and "knowledge development," which are different from ours.

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Appendix 1

Indicator (Cronbach's α composite reliability, average variance extracted)	Standard coefficient	t-value‡	R^2
Customer focus (α = 0.84; CR = 0.86; AVE = 0.51)			
We anticipate and respond to customers' evolving needs and wants	0.57	–	0.33
We emphasize the evaluation of formal and informal customer complaints	0.78	8.35	0.61
We follow up with customers for quality/service feedback	0.83	8.65	0.69
We interact with customers to set reliability, responsiveness, and other standards	0.81	8.55	0.66
Satisfying customer needs is the central purpose of our business	0.56	6.70	0.31
Customer focus is reflected in our business planning	0.67	7.57	0.44
We produce products that satisfy and/or exceed customer expectations*			
Long-term relationship (α = 0.86; CR = 0.83; AVE = 0.56)			
We expect our relationship with key suppliers to last a long time	0.67	–	0.45
We work with key suppliers to improve their quality in the long run	0.79	9.48	0.63
The suppliers see our relationship as a long-term alliance	0.72	10.74	0.52
We view our suppliers as an extension of our company	0.79	9.45	0.62
We give a fair profit share to key suppliers*			
The relationship we have with key suppliers is essentially evergreen*			
Inter-organizational communication (α = 0.86; CR = 0.86; AVE = 0.57)			
We share sensitive information (financial, production, design, research, and/or competition)	0.59	–	0.35
Suppliers are provided with any information that might help them	0.65	8.86	0.43
Exchange of information takes place frequently, informally and/or in a timely manner	0.84	9.21	0.71
We keep each other informed about events or changes that may affect the other party	0.88	9.41	0.77
We have frequent face-to-face planning/communication	0.75	8.62	0.57
We exchange performance feedback*			
Cross-functional teams (α = 0.90; CR = 0.90; AVE = 0.66)			
We collocate employees to facilitate cross-functional integration	0.55	–	0.31
We coordinate joint planning committees with our suppliers	0.82	10.33	0.68
We promote task force teams with our suppliers	0.92	9.09	0.85
We share ideas and information with our supplier through cross-functional teams	0.92	9.09	0.85
We use supplier involved ad hoc teams based on our strategic objectives	0.77	8.31	0.59
We encourage teamwork between our suppliers and us*			
Supplier involvement (α = 0.85; CR = 0.85; AVE = 0.58)			
We involve key suppliers in the product design and development stage	0.79	–	0.63
We have key supplier membership/participation in our project teams	0.81	12.04	0.66
Our key suppliers have major influence on the design of new products	0.70	10.10	0.49
There is a strong consensus in our firm that supplier involvement is needed in product design/development	0.75	10.95	0.56
We involve our key suppliers in business and strategy planning*			
We have joint planning committees/task forces on key issues with key suppliers*			

Notes: ‡All t-values are significant at $p < 0.01$ level; *items dropped during instrument development process; model fit indices: normed chi-square = 1.83 (⩽2.0); normed fit index = 0.90 (⩾0.90); non-normed fit index = 0.93 (⩾0.90); comparative fit index = 0.94 (⩾0.90); goodness of fit index = 0.88 (⩾0.90); adjusted goodness of fit index = 0.82 (⩾0.80); root mean square error of approximation = 0.06 (⩽0.08); root mean square residual = 0.06 (⩽0.08)

Table AI.

Appendix 2

Customer service ($\alpha = 0.83$)
CS1: Rapid confirmation of customer orders
CS2: Rapid handling of customer complaints
CS3: Customer satisfaction
Financial performance ($\alpha = 0.97$)
FP1: Return on investment
FP2: Profits as a percent of sales
FP3: Firm's net income before tax

Table AII.

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