The impact of product market strategy-organizational culture fit on business performance

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Abstract Drawing on the organization theory literature concerning configuration theory, competing values theory, and fit assessment methodologies, we examine the existence and performance impact of product market strategy–organization culture fit. Specifically, we assess the relationship among three important elements of a firm's product market strategy and the four cultural orientations that comprise the competing values theory of organizational culture using primary and secondary data from the US trucking industry. Using two different conceptualizations and operationalizations of fit, our results provide the first empirical support for the existence of interrelationships among product market strategy decisions and organizational culture orientations consistent with configuration theory conceptualizations of product market strategy–organizational culture fit. We also find support for theorized but previously untested relationships between product market strategy–organizational culture fit and firms' customer satisfaction and cash-flow return on assets (CFROA) performance. Since product market strategy is heavily reliant on the input of marketers, and organizational culture has long been recognized as having an important impact on marketing-related decision making, these findings have important implications for marketing strategy research and practice.

Introduction

Why do some businesses in an industry outperform others? Most organization theory answers to this question are grounded in the contingency view that fit between an organization and the environment in which it operates determines business performance (e.g., Gresov 1989; Miller 1996; Teece et al. 1997). In explaining why some businesses are better suited to their environment than others and thereby outperform peers, organization theorists have posited the importance of organizational configurations involving a number of complex multi-dimensional constructs including organization structure, organizational culture, product market strategy, and market environment (e.g., Ketchen et al. 1993; Meyer et al. 1993; Miller and Chen 1996; Slater et al. 2006). Some of the underlying fit-performance relationships posited in configuration theory have received empirical attention in the marketing literature, particularly those involving product market strategy and market environment (e.g., Hultman et al. 2009; McKee et al. 1989), and organization structure and strategy (e.g., Olson et al. 2005; Vorhies and Morgan 2003).

However, a comprehensive review recently concluded that "although the importance of configurations for perfor-

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mance has received considerable support, questions remain regarding the exact nature of this link" (Short et al. 2008, p. 1065). Further, in examining the potential of a number of different fields to contribute greater insight on the existence and nature of this link, the same review did not consider the field of marketing. We contend that marketing scholars can usefully draw on configuration theory to expand marketing strategy knowledge concerning the drivers of business performance by extending the range of different configurational elements considered in ways that are aligned with the theoretical marketing strategy literature. In doing so, we also contend that marketing strategy research has much to contribute to the organization theory literature on configurations.

To support these contentions, in this paper we identify product market strategy and organizational culture as key variables highlighted in theoretical explanations of firm performance in the marketing strategy literature that have not been previously examined from a configurational perspective. We draw on the theoretical marketing strategy literature to delineate fit between product market strategy decisions, concerning differentiation and efficiency-based positional advantages and product market scope (e.g., Day and Wensley 1988), and an organization's culture as indicated by competing values theory's Clan, Adhocracy, Hierarchy, and Market orientations (e.g., Deshpandé et al. 1993; Hewett et al. 2002; Moorman 1995) as an important driver of business performance. We also draw on the fit methodology literature (Van de Ven and Drazin 1985; Venkatraman 1989; Venkatraman and Prescott 1990) to identify and utilize two different approaches to conceptualizing and assessing strategy-culture fit and its relationship with business performance using primary data from single business-line firms, their customers, and secondary financial performance data.

Our study makes two main contributions to knowledge. First, we empirically examine the existence and nature of interrelationships among three important product market strategy dimensions and the four cultural orientations that comprise the competing values theory model of a firm's organizational culture. Our findings provide new empirical insights to support previously untested theory conceptualizations of fit between product market strategy and organizational culture. This is an important complement to prior configuration research since our findings involve organization culture—a central construct in organization theory but one about which little is known from a configuration perspective. Thus, our findings contribute to the configuration theory literature by helping to "build out" the set organizational phenomena that should be included in configurational theorizing.

Second, we examine the relationship between product market strategy–organizational culture fit and a business's customer satisfaction and financial performance. Our results provide empirical support for previously untested marketing strategy theory propositions concerning the performance impact of product market strategy–organizational culture fit. This is important because most empirical work in marketing does not test marketing strategy theory propositions in the holistic ways in which they are most commonly framed. Our results therefore provide powerful new empirical support for marketing strategy theory in this domain and do so in a manner that is not only aligned with the holistic framing of this relationship in marketing strategy theory but is also consistent with configuration theory approaches used in organization theory. Empirical support of this kind is important if marketers are to gain a "seat at the strategy table" in corporate settings, and also if marketing strategy research is to contribute to the "strategy conversation" among researchers in management, economics, and other disciplines.

Theoretical framework and hypotheses

Organization theory broadly views organizational performance as a function of an organization's ability to adapt to its environment (e.g., Gresov 1989). The organization theory and marketing literature suggest that three important elements in determining a business's ability to successfully adapt to its environment are: (1) its product market strategy decisions designed to match available resources and capabilities with the market environment in ways that allow the business's strategic goals to be achieved (e.g., Day and Wensley 1988; Dess and Davis 1984; Hughes and Morgan 2007); (2) its organizational culture, which shapes how managers and employees sense and behave with respect to the environment (e.g., Baligh 1994; Denison 1996); and (3) the fit between product market strategy decisions and organizational culture that enable the effective and efficient implementation of planned product market strategy (e.g., Day 1999; Scholz 1987).

Assessing whether a business's product market strategy and organizational culture are aligned and the impact that this has on performance outcomes requires the simultaneous consideration of multiple characteristics of the business (e.g., Doty et al. 1993). In addressing similar research questions, scholars in organization theory have used configuration theory-based approaches (e.g., Miller 1996; Veliyath and Srinivasan 1995). A configuration denotes a multidimensional constellation of the strategic and organizational characteristics of a business (e.g., Meyer et al. 1993). Configuration theory posits that for each set of strategic characteristics, there exists an "ideal" set of organizational characteristics which yields superior performance (e.g., Van de Ven and Drazin 1985). These

configurations are ideal because they represent complex "gestalts" of multiple, interdependent and mutually reinforcing organizational and strategic characteristics that enable businesses to achieve their performance goals (e.g., Ketchen et al. 1993; Miller 1996). Our research focuses on the relationship between a business's organizational culture and its product market strategy (Fig. 1). We begin by delineating each of these phenomena in turn and then examine the organization and strategic marketing theory rationale for their interrelationship and develop three specific hypotheses.
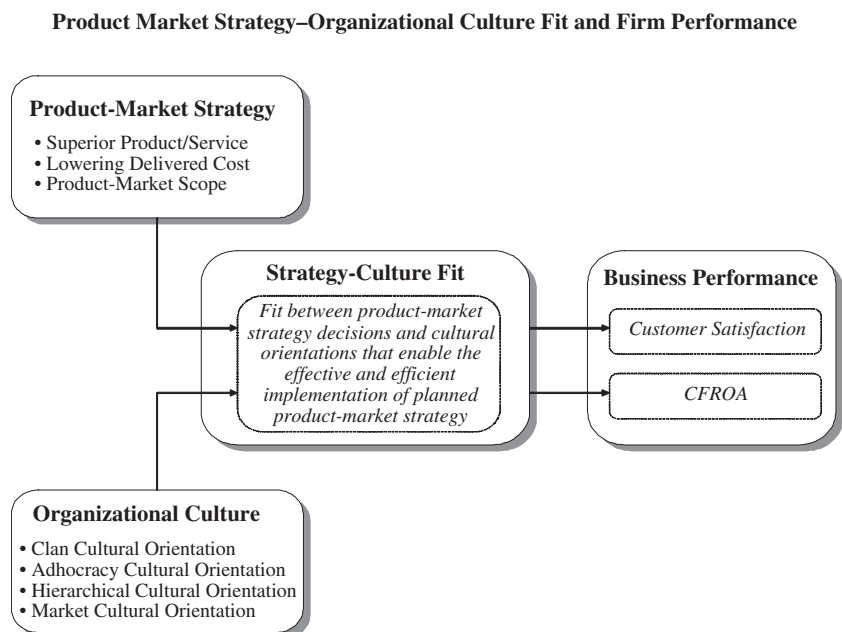
Product market strategy

Product market strategy concerns how a business intends to compete in the markets it chooses to serve (e.g., Aaker 1999; Day and Wensley 1988), mapping the planned patterns of resource deployments through which the firm attempts to achieve its goals (Hughes and Morgan 2007; Rosa and Spanjol 2005). Product market strategy is particularly important to marketing strategy researchers since it is the level of strategy in which marketers in organizations typically have the greatest input and influence and to which marketing strategy research has the potential to contribute most to the "strategy dialogue" both within organizations and with management scholars (e.g., Day 1992; Varadarajan and Jayachandran 1999).

Product market strategy is typically conceptualized in terms of two fundamental decisions. First, product market scope, which concerns the extent to which a business plans to target broad groups of customers or to focus more narrowly on a smaller number of segments (e.g., Day 1999;

Vorhies et al. 2009). Second, the value proposition to be delivered, which concerns the benefit/cost bundle by which a business seeks to attract and retain target customers and achieve its strategic objectives (e.g., Day and Wensley 1988; Slater and Olson 2001). Value propositions comprise two core product market strategy components: (1) the relative superiority of the business's product and/or service offerings, concerning the degree to which a business focuses on creating superior product and service quality, image, and performance benefits for target customers relative to those offered by competitors; and (2) the cost of delivering its products and/or services to target customers, concerning the extent to which the business focuses on actions and resource deployments that lower the cost of delivering its products and/or services (e.g., Aaker 1999; Vorhies et al. 2009).

Drawing on organization theory and industrial organization economics, early strategic management theorists posited that product market strategies should focus on *either* building superior products/services *or* achieving lowest delivered cost, and *either* operating in narrow niches *or* broad mass marketplaces (e.g., Porter 1985). However, this viewpoint has been overtaken by both theory developments and empirical evidence (e.g., Kotha and Vadlamani 1995). Theoretically, researchers have posited that product/service superiority and lowering delivered cost product market strategy decisions are not opposite ends of a continuum and are therefore not mutually exclusive (Hill 1988; Jones and Butler 1988). In addition, empirical studies have shown that many firms successfully pursue hybrid product market strategies combining aspects of different scope, differentiation,

Fig. 1 Product market strategy–organizational culture fit and firm performance

Product Market Strategy–Organizational Culture Fit and Firm Performance

Product-Market Strategy
• Superior Product/Service
• Lowering Delivered Cost
• Product-Market Scope

Strategy-Culture Fit
Fit between product-market strategy decisions and cultural orientations that enable the effective and efficient implementation of planned product-market strategy

Business Performance
Customer Satisfaction

CFROA

Organizational Culture
• Clan Cultural Orientation
• Adhocracy Cultural Orientation
• Hierarchical Cultural Orientation
• Market Cultural Orientation

and cost minimization components (e.g., Vorhies et al. 2009).

Organizational culture

Organizational culture concerns the system of shared values, beliefs, and assumptions that help individuals and groups to function within organizations (e.g., Denison 1996). Organization theory posits that organizational culture is a pervasive social system phenomenon that impacts managers' choices of desired outcomes (e.g., Quinn 1988); decisions about the means to achieve desired outcomes (e.g., Wilkins and Dyer 1988); and the behavioral norms of individuals and groups within organizations (e.g., Schein 1996). Organizational culture has long been viewed as an important issue for marketing researchers and managers (e.g., Deshpandé and Webster 1989; Hewett et al. 2002), and the identification of particular strategic behaviors consistent with a market-oriented culture has underpinned much of the important and influential market orientation research stream over the past two decades (e.g., Olson et al. 2005).

Organization theorists view organization culture more broadly and have sought to identify facets of organizational culture that can be used to calibrate any type of organizational culture. From this perspective, the competing values approach forms the basis of many empirical examinations of organizational culture used in organization theory and has also been adopted in a number of marketing studies (e.g., Berthon et al. 2001; Moorman 1995; Srinivasan et al. 2002; White et al. 2003). The competing values theory framework, which views organizations as simultaneously pursuing various different and often conflicting goals, is conceptualized in terms of inherent tensions between the competing demands of adaptation to the external environment versus maintenance of the internal socio-technical system and informal flexibility versus formal control approaches to internal governance (e.g., Buenger et al. 1996; Quinn and Cameron 1983).

Based on shared beliefs about important organizational attributes, leadership styles, organizational bonding mechanisms, and strategic goal emphases, the competing values perspective views businesses as exhibiting four different cultural orientations: (1) the *Clan* orientation, focusing on human relations as seen in an emphasis on internal cohesiveness, participation and teamwork, the welfare of employees, and loyalty and commitment in employee-firm connections; (2) the *Adhocracy* orientation, emphasizing flexibility and entrepreneurship, innovation, change and adaptation to the environment, and expansion and growth; (3) the *Hierarchy* orientation, emphasizing stability, continuity and order, formalization, and control; and (4) the *Market* orientation, emphasizing direction-setting and the accomplishment of clear goals, an internal task focus, and competitive actions and outcomes (Cameron and Freeman 1991). However, emphasizing one cultural orientation does not imply that another orientation is necessarily de-emphasized. Even apparently divergent cultural orientations are commonly observed in "paradoxical" combination within firms (e.g., Quinn and Spreitzer 1991). Therefore, a business's organizational culture is a hybrid, containing the characteristics of each of the Market, Hierarchy, Clan, and Adhocracy cultural orientations to a greater or lesser extent.

Hypotheses

Organization theory suggests that a business's product market strategy and its organizational culture should be intimately connected, with product market strategy decisions influencing organizational culture and vice versa. For example, in selecting and communicating the business's strategic goals and priorities, the choice of both target customers and the business's value proposition, and how the organization's performance is subsequently assessed, product market strategy decisions signal desired behaviors to managers and employees within the organization (e.g., Camerer and Vepsalainen 1988; Day and Wensley 1988; Schein 1996). In addition, by determining the nature of the tasks to be performed, product market strategy decisions also shape the institutional arrangements that emerge to regulate exchanges between individuals and groups within the firm (e.g., Jones 1983).

Conversely, in representing collective beliefs concerning the purpose of the firm, organization theory suggests that organizational culture also influences the selection of desired strategic goals (Quinn 1988; Weber and Camerer 2003). In addition, organizational culture determines how people in organizations perceive, think about, and react to environmental stimuli (e.g., Deshpandé et al. 1993; Moorman 1995; Schein 1996), shaping the areas of the environment viewed as attractive for the business's operations, and the responses to changes in the environment that are deemed to be appropriate (e.g., Cremer 1993; Wilkins and Dyer 1988). A business's product market strategy, representing its planned patterns of resource deployments in pursuit of desired strategic goals, should therefore be affected in important ways by organizational culture (e.g., Arogyaswamy and Byles 1987; Day 1999; Scholz 1987). The organization theory and marketing strategy literature therefore lead us to expect that:

H1: A business's product market strategy decisions and its organizational culture co-vary.

However, despite these theorized interrelationships, a firm's product market strategy decisions and its organizational culture may often be out of alignment. For example,

new managers or those with a predominantly external market perspective who are relatively insensitive to organizational culture may make product market strategy decisions that are not well aligned with a business's culture (Day 1999). In addition, organization theory suggests that the rate at which product market strategy decisions and organizational culture may change are likely to be different—with strategy decisions being typically easier to quickly change in significant ways than organizational culture (e.g., Quinn 1988; Schein 1996). As a result, marketplace shifts or other changes that result in rapid and significant alterations in a firm's product market strategy decisions are unlikely to be matched by commensurate changes in organizational culture in the same timeframe. It is therefore unsurprising that a business's product market strategy decisions may often not be "in fit" with its organizational culture (Day 1994).

The organization theory and marketing strategy literature suggest that the degree to which a business's product market strategy and organizational culture are aligned is likely to have an important effect on its performance. Two important dimensions of a business's performance are effectiveness—the degree to which desired business goals are achieved—and efficiency—the ratio of performance outcomes achieved to resource-inputs consumed (Burton et al. 2002). Businesses make important trade-off decisions in emphasizing either effectiveness or efficiency in their product market strategy (Vorhies and Morgan 2003; Vorhies et al. 2009) and may also make similar trade-offs in their organizational culture (Quinn and Cameron 1983; Wilkins and Ouchi 1983). Accordingly, we develop separate hypotheses for each of these performance dimensions.

An important indicator of a business's effectiveness is the extent to which it satisfies the needs of its customers (Day and Wensley 1988; Morgan and Rego 2006). Contingency theory posits that fit between product market strategy and organizational culture is an important determinant of a business's ability to satisfy its customers (Deshpandé et al. 1993). When product market strategy and organizational culture are "in fit" individual and strategic goals will be aligned, and managers and employees will more strongly identify with the business's strategic objectives and the tactics proposed to achieve them (e.g., Bates et al. 1995). Strategy-culture fit should therefore impact the willingness of managers and employees to use their knowledge and skills in ways that are consistent with planned resource deployments designed to serve customers (e.g., Schein 1996).

Conversely, however, when the requirements of a business's product market strategy are inconsistent with the behavioral norms of its organizational culture, employees and managers are less likely to engage in behaviors required to implement the planned product market strategy

(e.g., Day 1999; Scholz 1987; Weber and Camerer 2003). Such a lack of fit can even lead personnel to actively resist the implementation of product market strategy decisions for "ideological" reasons (e.g., Kotter 1996; Piercy and Peattie 1988). Since a central element of a business's product market strategy concerns how it intends to deliver superior customer value relative to its competitors, businesses that are more easily able to implement their product market strategy should enjoy a customer-value delivery advantage over firms that have more difficulty in executing their product market strategy (e.g., Slater and Olson 2001; Vorhies and Morgan 2003). We therefore hypothesize that:

H2: The greater the fit between a business's product market strategy and its organizational culture, the greater its customer satisfaction.

From an efficiency perspective, the finance and accounting literature highlights the need to focus on the cash-flows a business produces relative to the assets it employs (termed "cash-flow return on assets" or CFROA) (e.g., Dechow et al. 1998). Cash flows have been shown to be more significantly related to firms' stock value and to be less amenable to "earnings management" than reported profits (e.g., Neill et al. 1991). Fit between product market strategy and organizational culture should be positively associated with CFROA for two reasons. First, as elaborated in H1, by enabling the execution of product market strategy decisions, the value delivered to targeted customers should be greater when a firm's product market strategy fits well with its organizational culture. This will allow a business to achieve greater sales revenue and decreased price sensitivity, leading to higher levels of cash inflows. In addition, by lowering behavioral barriers among managers and employees, the firm should expend fewer resources in implementing its product market strategy decisions (e.g., Slater and Olson 2001). Product market strategy–organizational culture fit should also enable the actions and resource deployments required for strategy implementation to be more quickly executed (e.g., Cremer 1993). This both accelerates a business's cash inflows, which increases its net present value, and reduces the volatility of cash inflows, which lowers its cost of capital (e.g., Srivastava et al. 1998).

Second, the literature indicates that elaborating all possible (or even likely) contingencies associated with implementing a business's product market strategy, prescribing and communicating rules for manager and employee behavior for each contingency, and coordinating and monitoring the precise mix of implementation activities required under each contingency is usually uneconomic (Kreps 1990). Organization theory therefore indicates that by providing "codes" that help coordinate activities, organizational culture is an efficient mechanism for guiding

manager and employee behavior (e.g., Cremer 1993; Wilkins and Ouchi 1983). A business with an organizational culture that fits with the requirements of implementing its product market strategy therefore needs to invest fewer resources in its communication and control systems to achieve the same level of cash-flow returns (e.g., Camerer and Vepsalainen 1988). For these reasons, we expect that:

H3: The greater the fit between a business's product market strategy and its organizational culture, the greater its CFROA performance.

Methodology

Assessing strategy-culture fit

To assess product market strategy–organizational culture interrelationships and their impact on business performance, we build on the well-developed organization theory literature concerning fit. Fit can be defined in a number of different ways, each of which has implications for how relationships between constructs are conceptualized and tested. Using more than one conceptualization and specification of the fit relationship of interest can therefore provide a range of insights (e.g., Venkatraman 1990). The organization theory and marketing strategy literature frames the product market strategy–organizational culture fit relationship in holistic terms in which the multiple dimensions of product market strategy and organizational culture are considered simultaneously. We therefore use two different holistic approaches for conceptualizing and assessing fit suggested in the literature; *fit as covariation* and, *fit as profile deviation* (e.g., Venkatraman and Prescott 1990).

Fit as covariation In this perspective, fit is a pattern of covariation among a set of theoretically related variables (Venkatraman 1989). Analytically, from this perspective fit should be examined in a structural equation model (SEM) as a second-order factor representing the coalignment of the multiple first-order factors of interest (e.g., Vorhies and Morgan 2005). This method specifies that the patterns of covariation among the first-order factors are captured as a separate unobservable construct that has no directly observable indicators (Venkatraman 1989, 1990). From this covariation perspective, fit between product market strategy and organizational culture is conceptualized as a second-order factor that represents coalignment between the three first-order factors comprising product market strategy (superior product/service, lowering delivered cost, and product market scope) and the four first-order factors

comprising organizational culture (Hierarchy, Adhocracy, Clan, and Market cultural orientations). In addition to allowing the identification of a second-order fit factor, the SEM approach also allows measurement error to be modeled and enables the researcher to examine the relationship between any second-order fit factor identified and business performance dependent variables. However, the SEM approach does also have some downsides, such as limiting researchers' ability to introduce multiple control variables and to use non-continuous variables.

Fit as profile deviation In this approach, fit is the degree of adherence to an externally specified "ideal" profile (e.g., Hult et al. 2007; Vorhies and Morgan 2003). From this perspective, strategy-culture fit is the degree to which the product market strategy and organizational culture characteristics of a business differ from those of an ideal profile in which they fit together in ways that produce superior performance. While ideal profiles against which fit is assessed may be determined theoretically, there are few domains in which knowledge is sufficiently detailed to provide precise numerical estimates across multiple dimensions of complex phenomena such as product market strategy and organizational culture. In this situation fit should be assessed using empirically-derived ideal profiles (e.g., Gresov 1989; Venkatraman 1989). In the context of strategy-culture fit, this requires identifying high performing businesses pursuing different product market strategies, calibrating their organizational culture characteristics as an ideal profile, and assessing strategy-culture fit as deviation from this ideal profile (e.g., Venkatraman and Prescott 1990). Deviation from the ideal profile can then be used in regression analyses to examine fit-performance relationships. While this does not provide the same ability to control for measurement error as SEM approaches, the profile deviation perspective does provide greater insights into the precise form of the strategy-culture fit relationship. In addition, the use of regression provides much greater flexibility in the use of multiple control variables.

Research design

In studying business performance, single industry research designs offer control over industry effects and isolate relationships of interest. This is particularly appropriate here as industry effects on both organizational culture and our business performance dependent variables have been previously identified. We selected the US trucking industry as a context to test our hypotheses for three reasons. First, with more than $500 billion spent annually in the US alone, this is a large and strategically important industry. Second, trucking is a dynamic and highly competitive industry in

which formulating and executing appropriate product market strategies is an important driver of business performance. Third, the industry primarily contains single-business-line firms, which reduces the potential problem of differences between corporate-level and business-level organizational cultures, and problems associated with relating business-level phenomena and corporate-level performance data.

To assemble the data required for hypothesis testing, we first collected primary data concerning trucking company product market strategy and organizational culture using a key-informant survey design. Question-naires were mailed to the CEOs of 873 businesses randomly selected from the 2,034 in the Transportation Technical Services (TTS) database that lists businesses generating over 98% of total inter-city freight revenues (U.S. Bureau of the Census 2007). Respondents were also asked to provide the names of up to ten customers that would provide an unbiased assessment of their satisfaction with the firm's services. Of 873 deliverable trucking company surveys, 210 were completed and returned. Eight returned surveys failed our key informant knowl-edgeability threshold score of 5 or above on a 7-point scale question that asked respondents to indicate their familiarity with their firm's culture, product market strategy, and customers. The mean knowledgeability score of the remaining 202 respondents was 6.3. These respondents had a mean tenure in the company for which they responded of 15.5 years, and in their current position of 10.6 years. Our respondents are therefore appropriate key informants to provide data concerning their firms' product market strategy and organizational culture (e.g., Huber and Power 1985). The effective response rate of 24% is comparable with studies using similar research designs.

Next, we surveyed the trucking company customers. For each customer, we identified seven trucking company suppliers: the supplier that had identified them as a customer and six additional suppliers that they might be likely to use (selected by industry experts based on the customer's freight type match with the trucking company offerings and geographical service area). Each customer was asked to rate their satisfaction with all of the suppliers that they had used in the list of seven named. Of 1,061 customer surveys mailed, 685 were completed and returned—an effective response rate of 65%. This resulted in a mean of 4.54 responses for each trucking company, with 46.5% of the responses for each trucking company from customers not identified by that company. A test of differences between the satisfaction scores for trucking companies received from customers identified by that company, and satisfaction scores for trucking companies received from customers identified by our industry experts revealed no significant differences between these two groups.[1] Our customer satisfaction data are therefore unlikely to be biased by the initial identification of customers via the trucking company survey.

Finally, we matched and merged the trucking company data, the customer satisfaction data, and financial data from the TTS database. We deleted observations from the dataset where complete sets of all three data were not available. The final dataset contained 151 trucking companies, of which 26% reported sales of less than $10 million, 29% reported sales of $10–25 million, 20% reported sales of $26–80 million, and 25% reported sales greater than $80 million.

Measures

We used existing measures of our constructs (see "Appendix"), each of which has been demonstrated to have excellent measurement properties. Specifically we used: Doty et al.'s (1993) adaptation of Dess and Davis's (1984) product market strategy scales; Moorman's (1995) adaptation of Quinn and Spreitzer's (1991) organizational culture scales; and the American Customer Satisfaction Index (ACSI) customer satisfaction indicators (Fornell et al. 1996). Each firm's CFROA was calculated as: *(Net Operating Income + Depreciation and Amortization—Disposal of Assets)/Total Assets*. To minimize the impact of any short-term unobserved event on CFROA and allow for lagged effects, we collected financial data for a 2-year period (the year in which the primary data were collected and the following year) and used the average of the 2 years' data. As expected, the CFROA data in our sample exhibited a non-normal distribution which was corrected by a simple log transformation.

We also collected additional secondary data from the TTS database to enable us to control for heterogeneity among the firms in our dataset. These data included: the number of employees to indicate firm size; the dollar value of reported "loss and damage" relative to sales revenue to indicate each firm's service quality; revenue per ton-mile to indicate the average prices charged by each firm; and debt-to-equity ratio and the ratio of leased-to-owned assets to indicate each firm's financial structure. Finally, we used TTS data classifications to identify the categories of business in which each firm operated in terms of being a general vs. a specialist freight business, shipping truckload (TL) vs. less-than-truckload (LTL) volumes, and being an intermodal logistics provider vs. purely a trucking firm.

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[1] The mean customer satisfaction score of 6.12 on a ten-point scale is also slightly below the most recent American Customer Satisfaction Index (ACSI) average of 72.6 (on a hundred-point scale) for the relevant ACSI industrial sector (transportation).

Four of these control variables (# employees, relative "loss and damage" costs, revenue per ton-mile, and ratio of leased-to-owned assets) exhibited non-normal distributions which were corrected by simple log transformations.

Results

Assessment of measures

Summary scale statistics and correlations for our measures are reported in Tables 1 and 2. Analyses revealed no significant differences between early and late respondents on any of the constructs, suggesting no indication of non-response bias (Armstrong and Overton 1977). The measurement properties of the constructs were assessed using Confirmatory Factor Analysis (CFA). Due to the relatively small number of observations in our dataset, we divided the measures into three subsets of theoretically related variables (Bentler and Chou 1987).[2] The three measurement models fit well as indicated by the CFA results for the four organization culture constructs (χ^2=123.26, 98 d.f., p<.04, CFI=.94, GFI=.91, RMSEA=.04), the three product market strategy constructs (χ^2=37.89, 51 d.f., p<.91, CFI=.99, GFI=.96, RMSEA=.001), and the two business performance constructs (χ^2=2.56, 3 d.f., p<.45, CFI=1.00, GFI=.99, RMSEA=.001). All items loaded strongly on the constructs they were intended to represent (loadings ranged from .55 to .98), indicating convergent validity.

Discriminant validity was assessed by calculating the average variance extracted (AVE) for each of our scale measures and comparing this with the squared correlations between each of the constructs. The lowest AVE value for any of our constructs is 50%, while the largest squared correlation is .29, indicating good discriminant validity among our measures. This was confirmed in a series of pair-wise measurement models in which each pair of inter-factor correlations was constrained to one and then allowed to vary freely. χ^2 difference tests supported the discriminant validity of the constructs in each case. Reliability was assessed by calculating composite reliabilities for each of our survey measures. Values ranging from .79 to .97 (Table 1), suggest good reliability for all constructs. Since our trucking company primary data were collected using the same questionnaire, we also performed Harmon's single-factor test for common methods variance, which indicated that this is unlikely to be a major factor affecting

any relationships between product market strategy and organizational culture in our dataset.[3]

Hypothesis testing

Testing our hypotheses from a "fit as covariation" perspective, we specified product market strategy fit with organizational culture as a second-order "coalignment" factor in a SEM where the first-order factors are estimated from the measurement items representing the three dimensions of product market strategy and the four dimensions of organizational culture (Venkatraman 1989). We assessed the hypothesized performance impact of strategy-culture fit by including a path from the second-order strategy-culture coalignment factor to each performance dependent. Both models fit the data well with indices of χ^2=508.55, 456 d. f., p<.05, with CFI=.96, and RMSEA=.03 for the customer satisfaction model, and χ^2=446.43, 398 d.f., p<.05, with CFI=.95, and RMSEA=.03 for the CFROA model.[4] As seen in Table 3, in both models the paths from the seven first-order factors to the second-order coalignment factor are all significant and in the expected direction. In addition, the paths between the second-order coalignment factor representing the business's product market strategy–organizational culture fit and both customer satisfaction (β=.22, t-value 2.31) and CFROA (β=.29, t-value 3.03) performance are positive and significant, supporting Hypotheses 1 and 2.

We also tested our hypotheses from a "fit as profile deviation" perspective. Product market strategy is usually conceptualized as a holistic configuration of all three product market strategy decisions. Identifying an organizational culture profile that is "in fit" with a firm's product market strategy therefore first requires identifying the configurations of the three product market strategy decisions adopted by the firms in our sample (i.e., the strategic groups observed in our industry context). We therefore first developed an empirical taxonomy of product market strategy groups in our sample. Following Ketchen and Shook (1996), we used a two-stage procedure that takes advantage of the strengths of two different clustering approaches. First, we used a hierarchical clustering algorithm (Wards) and Sarle's cubic clustering criteria to determine the appropriate number of clusters.[5] These

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[2] Relevant to subsequent hypothesis testing, we also ran two measurement models containing all the independent and control variables with each dependent variable. Both the customer satisfaction (χ^2=502.05, 452 d.f, CFI=.97, NNFI=.96, RMSEA=.03) and CFROA (χ^2=430.0, 392 d.f, CFI=.95, NNFI=.94, RMSEA=.03) measurement models were supported in our data.

[3] Comparing a single-factor confirmatory model (χ^2=802.42, 324 d.f, CFI=.47, RMSEA=.10) with a seven-factor model (χ^2=356.52, 303 d.f, CFI=.94, RMSEA=.03) yields a χ^2 difference equal to 445.90, 21 d.f., p<0.001.

[4] We also examined a SEM that included a "same source" factor along with the theoretical constructs and relationships of interest, which indicated that common method variance does not significantly attenuate the paths in these analyses (e.g., Netemeyer et al. 1997).

[5] Using of a number of alternative algorithms (e.g., nearest neighbor, average linkage) produced similar results.

Table 1 Descriptive statistics

Constructs	Measures	Mean	Standard deviation	For multi-item measures		
				AVE	Composite reliability	Loadings range
Organizational culture	Clan cultural orientation	5.16	1.11	52%	0.81	0.52–0.84
	Adhocracy cultural orientation	4.76	1.10	50%	0.79	0.58–0.84
	Market cultural orientation	4.38	1.03	51%	0.79	0.64–0.81
	Hierarchy cultural orientation	4.32	1.15	50%	0.79	0.52–0.82
Product market	Superior product/service	4.50	0.90	54%	0.85	0.50–0.89
Strategy	Lowering delivered cost	4.68	0.97	51%	0.83	0.59–0.90
	Product market scope	3.90	1.15	57%	0.83	0.60–0.91
Firm performance	Customer satisfaction	6.42	1.67	92%	0.97	0.94–0.98
	CFROA	0.18	0.06			
Firm size	# Employees	862.40	3492.85			
Business type	General freight	0.43	0.50			
	Truckload	0.84	0.37			
	Intermodal	0.06	0.23			
Service quality	Relative loss and damage	0.01	0.04			
Average prices	Revenue per ton-mile	0.22	0.32			
Financial structure	Leased-to-owned ratio	0.39	0.27			
	Financial leverage	0.55	1.32			

analyses supported a five cluster solution (i.e., five different product market strategy groups). Second, to assign the strategy decisions of the firms in our sample to one of the five product market strategy groups such that the clusters are stable and tight, we used the non-hierarchical K-means approach that has been used in developing similar typologies (e.g., Slater and Olson 2001). Analysis of Variance and the Scheffé multiple comparison test confirmed that each cluster is unique on at least one of the three product market strategy decision variables.

In Table 4 we provide the mean and standard deviation of each of the three product market strategy variables for each cluster. We validated these clusters using three additional items from our trucking firm survey data, plus one item of secondary data from the TTS database (Ketchen and Shook 1996).[6] We found significant differences between the five clusters with scores that were consistent with those on the three product market strategy constructs used to form the original cluster solution. The existence of five different product market strategy types, and the "mixed" nature of some of these strategies, supports the management literature in suggesting that such strategies are

commonly observed. In addition, supporting the equifinality principle in contingency theory and the notion that "mixed" strategies can perform as well as "pure" strategy types, we found no significant differences in either customer satisfaction or CFROA performance among the five product market strategy types.

Of the five distinct product market strategy types identified in our sample, we labeled the first "Broad Hybrid" since the firms in this cluster planned to compete with a value proposition that was high on both superior product/service and lowering delivered cost across a broad product market scope. We labeled the second cluster "Narrow Hybrid" as it contained firms with similarly high superior product/service and lowering delivered cost desired positional advantage decisions but which reported a much narrower product market scope. Firms in the third cluster had similarly narrow product market scope but had a value proposition focus on superior product/service that was clearly stronger than that on lowering delivered cost. We therefore labeled this group the "Narrow Service" product strategy type. Firms in the fourth cluster were labeled "Cost-Based" since they reported a strong focus on lowering delivered cost but a lesser focus on product/ service superiority in their value propositions, with a product market scope that was at the mid-point of the scale. The final cluster we labeled "Limited" since these firms had the lowest scores on both positional advantages sought and a desired product market scope around the mid-point of the scale.

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[6] We used items concerning the extent to which it was the firm's strategy "to offer innovative products and services" as an indicator of superior product/service, "to be the lowest cost provider in the industry" as an indicator of lowest delivered cost, and both "to offer products and/or services for specialized needs" and TTS data concerning each firm's average haulage distance to indicate product/ market scope.

Table 2 Correlations

Variable		X1	X2	X3	X4	X5	X6	X7	X8	X9	X10	X11	X12	X13	X14	X15	X16
X1	CFROA																
X2	Customer Satisfaction	.39**															
X3	Superior Product/Service	-.11	-.05														
X4	Lowering Cost	.04	.23**	.37**													
X5	Product-Market Scope	-.05	-.04	.10	.02												
X6	Clan Orientation	.07	.04	.16***	.17***	.27**											
X7	Adhocracy Orientation	-.02	.06	.31**	.34**	.20*	.39**										
X8	Hierarchy Orientation	.26**	-.02	-.02	.11	.26**	.34**	.19*									
X9	Market Orientation	-.03	-.19	-.01	.02	.02	-.06	.30*	.41**								
X10	# Employees	.03	.02	.02	.28**	.20*	.24*	.18***	.20*	.04							
X11	General Freight	.20*	.06	-.10	.06	-.06	-.06	.11	.03	.12	.06						
X12	Truckload	.01	.03	-.01	-.04	.05	-.11	-.07	-.02	-.19*	-.04	-.54**					
X13	Inter-modal Revenue	-.07	.10	-.09	.10	-.15	-.05	-.09	-.10	-.08	.08	.23*	-.47**				
X14	Quality	-.06	-.03	.04	.15	-.31**	-.13	-.16***	-.17***	.03	.09	.15	-.25***	.42**			
X15	Revenue per ton-mile	-.04	-.01	.19*	.09	-.08	.15	.10	.01	.12	.04	.01	-.52**	.13	.21*		
X16	Lease-to-own ratio	-.15	-.09	-.12	-.14	.07	-.03	-.03	.10	.01	-.08	-.24*	.28**	-.18***	-.06	-.12	
X17	Financial Leverage	.03	.07	.23*	.10	.09	.05	.10	-.04	.01	-.06	.19*	-.07	.10	-.04	-.22*	-.29**

*$p<.05$, **$p<.01$, ***$p<.10$

Table 3 Structural equation modeling of product market strategy–organizational culture fit as covariation

			Coefficient	t-value
Customer satisfaction model				
Paths modeled				
Superior product/service	➜	Coalignment	.53	6.13
Lowering delivered cost	➜	Coalignment	.50	6.06
Product market scope	➜	Coalignment	.19	2.08
Clan cultural orientation	➜	Coalignment	.24	2.74
Adhocracy cultural orientation	➜	Coalignment	.55	6.49
Hierarchy cultural orientation	➜	Coalignment	.26	3.07
Market cultural orientation	➜	Coalignment	.57	6.49
Coalignment	➜	Customer satisfaction	.22	2.31
Firm size	➜	Customer satisfaction	−.14	−1.78
Overall fit				
χ^2	508.55, 456 d.f., p=.05			
CFI	.96			
RMSEA	.03			
NNFI	.97			
CFROA model				
Paths modeled				
Superior product/service	➜	Coalignment	.57	6.63
Lowering delivered cost	➜	Coalignment	.52	6.29
Product market scope	➜	Coalignment	.25	2.93
Clan cultural orientation	➜	Coalignment	.26	2.87
Adhocracy cultural orientation	➜	Coalignment	.44	5.47
Hierarchy cultural orientation	➜	Coalignment	.28	3.22
Market cultural orientation	➜	Coalignment	.57	6.40
Coalignment	➜	CFROA	.29	3.02
Firm size	➜	CFROA	−.05	−0.55
Overall fit				
χ^2	446.43, 398 d.f., p=.05			
CFI	.95			
RMSEA	.03			
NNFI	.95			

We then identified the highest performing businesses in each product market strategy type group on each of the dependent variables and calibrated the organizational culture characteristics of these top performers as the ideal organizational culture profiles for each product market strategy type (e.g., Doty et al. 1993; Venkatraman 1990). The data indicated a drop-off in the customer satisfaction and CFROA performance of top performers that ranged between two and seven top-performing firms in each product market strategy type group. We therefore selected these top-performing businesses to calibrate the ideal organizational culture profile for each product market strategy type (e.g., Vorhies and Morgan 2003). As revealed in Table 5, the satisfaction scores for the top performing customer satisfaction firms and the CFROA numbers for the top CFROA performers in each product market strategy type group are clearly higher than the mean for each group (Table 4), and for the whole sample (Table 1). Similarly, the organizational culture characteristics of these top performers used to calibrate the ideal organizational culture profile for each product market strategy type clearly differ from the mean organizational culture profiles for all firms in each strategy type group (Table 5) and for the sample as a whole (Table 1).

In testing H1 from a "fit as profile deviation" perspective, the mean scores of the top customer satisfaction performers on each of the four organizational culture constructs were used to form the ideal profile for each product market strategy type (e.g., Venkatraman 1989). For the remaining businesses, we calculated the Euclidean

Table 4 Product market strategy type profiles

Product market strategy and organizational culture characteristics	Product market strategy cluster				
	"Broad hybrid" (N=36)	"Narrow hybrid" (N=34)	"Narrow service" (N=39)	"Cost-based" (N=27)	"Limited" (N=17)
Product market strategy clustering variables					
Superior product/service	5.88	6.13	5.36	4.41	3.29
Lowering delivered cost	5.71	6.16	4.35	5.75	3.66
Product market scope	2.95	5.38	5.13	4.00	4.07
Organizational culture descriptives					
Clan cultural orientation	5.01	5.58	5.21	4.06	4.59
Adhocracy cultural orientation	4.74	5.42	4.55	4.88	3.81
Hierarchy cultural orientation	3.93	4.90	4.44	4.11	3.97
Market cultural orientation	4.27	4.62	4.28	4.52	4.25
Business performance descriptives					
Customer satisfaction	6.51	6.73	6.23	6.66	6.26
CFROA	.19	.22	.18	.21	.16

distance of each business from the ideal organizational culture profile for its product market strategy type group (e.g., Drazin and Van de Ven 1985; Venkatraman 1990), as follows:

$$Dist = \sqrt{\sum_{j}^{N} \left(Xsj - \overline{X}ij\right)^2}$$

Where

X_{sj} the score for a firm in the study sample on the jth dimension.

$\overline{X}ij$ the mean for the ideal profile along the jth dimension.

j the number of profile dimensions (1, 2,…7).

This provided a "profile deviation" score representing the degree to which each business's organizational culture profile is similar to that of the ideal for its product market strategy type in which superior customer satisfaction performance indicates that product market strategy and organizational culture are "in fit". The profile deviation score for each business, along with our control variables,

was then regressed onto customer satisfaction to test H1. This procedure was repeated using the top CFROA performers in calibrating ideal organizational culture profiles for each product market strategy type to test H2. For our hypotheses to be supported, deviation from the ideal organizational culture profile for each product market strategy type should be negatively related to customer satisfaction and CFROA outcomes. To assess the power of these tests we randomly selected a number of businesses equal to that of the top performers within each product market strategy type, where the level of strategy-culture fit was unknown, to calibrate a set of "non-ideal" baseline profiles (e.g., Venkatraman and Prescott 1990; Vorhies and Morgan 2003). Deviations from the non-ideal baseline profiles were then substituted into the regression models to allow comparisons. All regression models were estimated in a stepwise fashion, with control variables entered in the first step, and the profile deviation measure of product market strategy–organizational culture fit entered second. The full hypothesis testing regression models are specified below,

$$CustomerSat_t = \beta_{Sat0} + \beta_{Sat1} \cdot MISFIT_t + \beta_{Sat2} \cdot CFROA_{t-1} + \beta_{Sat3} \cdot EMPS_t + \beta_{Sat4} \cdot GENFR_t$$
$$+ \beta_{Sat5} \cdot TL_t + \beta_{Sat6} \cdot INTER_t + \beta_{Sat7} \cdot QUAL_t + \beta_{Sat8} \cdot RPTM_t + \beta_{Sat9} \cdot LEASE_t$$
$$+ \beta_{Sat10} \cdot LEVER_t + \varepsilon_{Satt}$$

$$CFROA_{(t+t+1)/2} = \beta_{Cf0} + \beta_{Cf1} \cdot MISFIT_t + \beta_{Cf2} \cdot CFROA_{t-1} + \beta_{Cf3} \cdot EMPS_t + \beta_{Cf4} \cdot GENFR_t$$
$$+ \beta_{Cf5} \cdot TL_t + \beta_{Cf6} \cdot INTER_t + \beta_{Cf7} \cdot QUAL_t + \beta_{Cf8} \cdot RPTM_t + \beta_{Cf9} \cdot LEASE_t$$
$$+ \beta_{Cf10} \cdot LEVER_t + \varepsilon_{Cft}$$

Table 5 Ideal organizational culture profiles for each product market strategy type

	Broad hybrid strategy type		Narrow hybrid strategy type		Narrow service strategy type		Cost-based strategy type		Limited strategy type	
	Top Cus. Sat Firms (N=7)	Top CFROA Firms (N=7)	Top Cus. Sat Firms (N=7)	Top CFROA Firms (N=3)	Top Cus. Sat Firms (N=6)	Top CFROA Firms (N=4)	Top Cus. Sat Firms (N=6)	Top CFROA Firms (N=4)	Top Cus. Sat Firms (N=3)	Top CFROA Firms (N=2)
Ideal organizational culture profile										
Clan cultural orientation	5.18	4.39	5.61	6.58	5.54	4.13	5.69	5.69	4.08	5.50
Adhocracy cultural orientation	4.68	4.36	5.46	5.67	5.04	4.38	5.63	4.81	3.58	4.25
Hierarchy cultural orientation	4.29	3.93	4.89	5.50	4.71	4.50	4.39	4.75	4.58	4.25
Market cultural orientation	3.96	3.79	4.50	4.83	4.29	4.50	4.37	3.94	3.67	4.00
Product market strategy descriptives										
Superior product/service	5.86	6.18	5.96	5.92	5.04	5.44	4.63	4.75	3.42	3.00
Lowering delivered cost	5.82	5.89	6.29	6.25	4.71	4.31	5.75	5.94	3.92	4.13
Product market scope	3.18	2.46	5.07	5.58	5.46	4.56	4.31	4.13	3.50	3.38
Firm performance descriptives										
Customer satisfaction	8.72	7.09	9.06	7.59	8.61	6.38	8.91	8.04	8.62	8.33
CFROA	.22	.30	.28	.53	.22	.33	.27	.41	.15	.39

where: MISFIT is the deviation from the ideal culture profile for each product market strategy type group; $CFROA_{t-1}$ is the firm's prior period cash-flow return on assets; EMPS is the number of employees; GENFR identifies a general vs. specialist freight carrier; TL indicates a truck-load or a LTL carrier; INTER is whether or not the firm is an intermodal logistics provider; QUAL is the dollar value of reported "loss and damage" relative to the firm's sales revenue; RPTM is the average revenue received per ton mile of freight shipped; LEASE is ratio of the value of leased-to-owned assets; and LEVER is each firm's debt-to-equity ratio. Tolerance and VIF statistics in our regressions were well below standard cutoffs (e.g., all VIF values were below 3.0), indicating little evidence of multicollinearity.

As shown in Table 6, the regression results also supported our hypotheses linking a business's strategy-culture fit with both its customer satisfaction ($\beta=-.21$ $p<.05$ and CFROA ($\beta=-.23$, $p<.01$) performance. The insignificant coefficients for the profile deviation terms in both random non-ideal baseline regressions enhance confidence in these results. Our stepwise regression analyses indicate that deviation from the ideal organizational culture profile for each product market strategy type plus the control variables explain 24% of the variance in customer satisfaction (with an R^2 increase of .04 when the profile deviation term is entered into the regression) and 25% of the variance in CFROA (with an R^2 increase of .05 when

the profile deviation term is entered into the regression) performance in the businesses in our sample. While statistically significant, the R^2 increases from including strategy-culture fit in the regression models may appear relatively modest. However, from a real significance perspective, the R^2 increase in CFROA equates to a 7% in increase in cash-flow (over $873,000) for the average firm in our dataset.[7] Meanwhile, the R^2 increase in customer satisfaction equates to over 2.5 points on the ACSI and recent studies indicate that for an average Fortune 200 firm, an increase of one ACSI point is associated with a $55 million increase in net operating cash-flows (Gruca and Rego 2005).

Discussion and implications

Conceptualizing and assessing fit as a pattern of covariance offers the advantage of identifying the existence of fit between multiple first-order constructs, and simultaneously assessing the relationship between the second-order factor representing fit between the first-order factors and perfor-

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[7] The mean values for the firms in our sample are 18% CFROA with cash-flows of $12,462,240 and $70,560,670 in assets. A 5% increase in variance in CFROA explained equates to a CFROA improvement to 18.9%, which in turn indicates an increase in cash-flow of $873,710 [(18.9*70,560,670=$13,335.95)—$12,462,240]—an increase of 7%.

mance outcomes. From this perspective, our results indicate that the three product market strategy and four organizational culture characteristics of the businesses in our dataset co-vary, supporting the existence of interrelationships among these variables that are consistent with theoretical conceptualizations of strategy-culture fit. In addition, our SEM analyses indicate that the covariation among a business's product market strategy and organizational culture characteristics is linked with both its customer satisfaction and CFROA performance. This supports organization theory propositions linking strategy-culture fit with business performance (e.g., Arogyaswamy and Byles 1987; Scholz 1987).

In contrast, a profile deviation perspective offers insights into the specific configurations of different variables that comprise the fit relationship of interest and how these are associated with performance. Our profile deviation analyses indicate that it is not just the pattern of covariation but also the specific configuration of the three product market strategy and four organizational culture characteristics of the businesses in our dataset that are important determinants of their business performance. While the number of top-performers in each group is too small to allow statistical comparisons, the profiles of the top customer satisfaction and CFROA performers in Table 5 indicate that the top-performing firms of each product market strategy type have distinctive configurations of organizational culture characteristics. Our regression results in Table 6 indicate that deviation from these ideal organizational culture profiles for each product market strategy type explains significant variance in the customer satisfaction and CFROA performance of the businesses in our dataset, providing additional support for theorized strategy-culture fit–performance relationships.

Our findings have three important implications for strategic marketing and organizational theory researchers. First, our SEM analyses provide the first empirical support for organization theory conceptualizations of product market strategy–organizational culture fit. This suggests that over time product market strategy and organizational culture do not change independently of one another. Importantly, this suggests that studies of product-market strategy related phenomena such as marketing planning and marketing strategy decision making need to consider and account for the organizational culture context within which such planning systems are embedded and strategic marketing decisions are taken in order to develop a comprehensive understanding of these important strategic marketing phenomena.

Second, consistent with the equifinality principle in organization theory, our analyses reveal no significant customer satisfaction and CFROA performance differences between product market strategy type groups. However, our analyses do show that deviation from an empirically-derived "ideal" organizational culture profile for executing a given strategy type is negatively associated with both firms' customer satisfaction and CFROA performance. Thus our data indicate that it is not product market strategy selection per se which drives inter-firm performance differences but how well a given strategy type is implemented. Past studies have suggested that aligning organization structure and business strategy is an important driver of strategy implementation (e.g., Vorhies and Morgan 2003; Walker and Ruekert 1987). Our results suggest that the fit between planned product market strategy and the organizational culture that guides individual and group perceptions and behavior within the firm may also be an important driver of strategy implementation success.

Third, Short et al. (2008) highlight that most studies of strategic groups have focused exclusively on strategy content variables, which has limited their contribution to configurational theorizing. Here, we empirically identify ideal organizational culture profiles of high-performing firms in each strategic group (Table 4) to indicate the varying configurations of cultural orientations required to produce superior performance for different strategic groups. Our profile deviation regression analyses and comparative baseline results (Table 6) support the importance of these configurations of organizational culture orientations in enabling strategic groups to execute their differing product market strategy decisions in ways that produce superior performance outcomes. Given the time required to significantly alter organizational culture noted in the literature, this provides new insights into the nature of mobility barriers in strategic group research. Specifically, our findings suggest that if organizational culture orientations of the type we identify as being needed to successfully execute a given set of product market strategy decisions are difficult to quickly change, this may be an important reason why firms relatively rarely change strategic groups within an industry (e.g., Mascarenhas and Aaker 1989). This provides needed cross-firm quantitative support to earlier indications of the important role of organizational culture in prior qualitative single-firm studies (e.g., Dyck 1997).

Further, these profiles reveal that even within strategic groups, different organizational culture emphases are required depending on whether a business is seeking to implement its product market strategy in ways that maximize its effectiveness (customer satisfaction) or efficiency (CFROA) performance. Assuming that the firms in our sample are seeking to maximize one aspect of performance vs. another (the correlation between the two performance variables is less than .4), this is

Table 6 Regression equation results

Independent variables	Equation 1 Customer Satisfaction Top performers control only Standardized estimate (t-value)	Equation 2 Customer Satisfaction Top performers control + Fit Standardized estimate (t-value)	Equation 3 Customer Satisfaction "Non ideal" Control + Fit Standardized estimate (t-value)	Equation 4 CFROA[a] Top performers control only Standardized estimate (t-value)	Equation 5 CFROA[a] Top performers control + fit Standardized estimate (t-value)	Equation 6 CFROA[a] "Non ideal" control + Fit Standardized estimate (t-value)
Main effects						
Strategy-culture fit		−.21 (−2.29)	−.02 (−0.24)		−.23 (−2.63)	−.08 (−0.86)
Control variables						
$CFROA_{t-1}$	−.06 (−0.73)	−.05 (−0.62)	−.04 (−0.41)	−.11 (−0.55)	−.09 (−1.03)	−.11 (−1.13)
# Employees	−.21 (−2.36)	−.25 (−2.71)	−.20 (−2.21)	.05 (0.55)	.05 (0.58)	.04 (0.38)
General freight	.32 (2.86)	.29 (2.67)	.29 (2.66)	.27 (2.45)	.25 (2.30)	.24 (2.10)
Truckload	.53 (3.83)	.49 (3.66)	.43 (3.72)	.54 (3.56)	.53 (3.56)	.48 (3.29)
Inter-modal revenue	.29 (2.71)	.24 (2.14)	.10 (0.95)	.15 (1.31)	.14 (1.20)	.13 (1.12)
Quality	−.07 (−0.48)	−.04 (−0.44)	−.01 (−0.08)	−.14 (−1.29)	−.16 (−1.44)	.05 (0.47)
Revenue per ton-mile	.22 (2.01)	.20 (1.86)	.25 (2.06)	.06 (0.57)	.04 (0.40)	.06 (0.44)
Leased-to-owned ratio	−.09 (−0.91)	−.13 (−1.28)	−.14 (−1.36)	−.35 (−3.56)	−.38 (−3.94)	−.26 (−2.48)
Financial leverage	−.06 (−0.60)	−.01 (−0.99)	−.03 (−0.26)	−.05 (−0.48)	−.08 (−0.78)	−.01 (−0.07)
R^2	.20	.24	.16	.20	.25	.20

consistent with the notion that predominant strategic goals are important characteristics of an organization that need to be included in any comprehensive approach to theorizing about configurations. Our study provides needed cross-firm empirical support for the importance of such organizational goals, which has been previously been highlighted only in single-firm studies of configurational fit (e.g., Siggelkow 2002).

From a managerial perspective, our study indicates that managers need a balanced focus on the external environment *and* the internal organization in developing product market strategy. While this may seem obvious, marketers have traditionally been taught that product market strategy formulation should be focused primarily on gathering data, applying analytical tools, and selecting decision options on the basis of analyses of the external market. Our results highlight that managers also need to balance this external focus with an awareness of the important role of the firm's own organizational culture. In particular, managers need to carefully evaluate the extent to which they can create or maintain cultural conditions that are compatible with the product market strategy decision alternatives under consideration before making product market strategy selection choices.

In addition to providing new theory building insights, our empirically-derived ideal organization culture profiles (Table 5) provide some initial guidance for managers in this respect. For example, from a scope perspective, the differ-

ences between the "broad" and "narrow" hybrid strategy profiles we observe suggest that stronger organization cultures on each of the four cultural orientations are required for successful execution of hybrid strategies that are narrow in scope. One explanation for this is that while organizational culture may be an effective and efficient control mechanism in firms serving a specific market segment, serving more diverse markets may require structural rather than cultural control mechanisms. Similarly, Table 5 also suggests that successful firms with a particularly strong emphasis on delivering superior service, tend to have higher levels of the adhocracy cultural orientation than firms with very low emphasis on delivering superior service (limited strategy type). This suggests that having cultures supportive of innovation, risk-taking, and entrepreneurship may be particularly important to successfully executing service-based strategies.

Thus, our results indicate that managers need to consider the existing organizational culture context they face and calibrate their ability to take active steps to change these cultural conditions before making strategy selection decisions. While directly managing culture is difficult, the literature indicates that managers' actions in areas such as selecting, evaluating, and rewarding personnel and making visible commitments of their own time engaging in particular activities can send important and credible signals concerning desirable behavioral norms within the organization (e.g., Scholz 1987; Wilkins and Dyer 1988). In

addition, managers should also consider creating and propagating stories, heroes, and other cultural artifacts that are consistent with the behaviors that will best facilitate the implementation of planned product market strategy decisions. Once the existing organizational culture context is well understood, and managers consider the scale and nature of any changes to the organizational culture that they may realistically be able to achieve, our results can be used to enable the identification of the most executable sets of product market strategy decisions.

Limitations and directions for future research

Several limitations of our study result from trade-off decisions required in research of this type. First, we test our hypotheses with cross-sectional survey data from trucking companies and their customers. While we use 2-year average cash-flows to provide some indication of lagged performance, we are still limited in our ability to empirically establish causality. Future research could complement our findings by utilizing longitudinal research designs. Second, we use a single key informant for our organizational culture and product market strategy data. Following established guidelines, we ensured that our informants were knowledgeable regarding the constructs of interest. Previous studies have shown that informants with significant tenure from the same business exhibit few differences in responding to organizational culture survey questions (e.g., Weber et al. 1996) and that perceptual data from knowledgeable key informants provides a valid and reliable indicator of a business's product market strategy (e.g., Slater and Olson 2001). Nonetheless, additional studies using multi-informant designs are required to validate our findings. Third, while our single industry research design helps us to control for industry effects and isolate the relationships of interest, this necessarily limits the generalizability of our findings. Further studies using multi-industry designs are therefore needed. Fourth, we use single metric indicators of the effectiveness and efficiency of business performance. Replicating our results using additional performance metrics would enhance confidence in our findings.

While our study raises a number of interesting questions, we view two as having the potential to provide particularly important new insights for marketing researchers. First, given the important performance impact of strategy-culture fit revealed in our results, identifying antecedents of strategy-culture fit should be a priority for future research. Two interesting areas to examine may be market planning process characteristics and individual planner/planning group characteristics. For example, do more comprehensive marketing planning processes characterized by greater

attention to detailed implementation issues help ensure a better fit between product market strategy decisions and organizational culture? Do larger planning teams, or those comprising managers with longer tenure in the business, make product market strategy decisions that are better aligned with a business's organizational culture? Do marketing planners with a more balanced "internal" and "external" perspective in assessing competitive advantage develop product market strategies that fit better with a business's organizational culture?

Second, we specifically selected our sample of single-business dominant firms to minimize differences between corporate- and business unit-level organizational culture. How do large multi-business firms that often pursue different product market strategies in different business units create conditions that allow each businesses product market strategy to be successfully executed? Theoretically, sub-unit organizational cultures may vary within the same corporation (e.g., Denison 1996; Wilkins and Ouchi 1983). Is such variance in organizational culture enough to allow effective and efficient implementation of different business-level product market strategies? If not, can some of the strategy implementation functions performed by organizational culture be substituted by other organizational characteristics such as organizational structure or systems? If so, to what degree and under what conditions? If not, does this suggest a limit on the number and types of different product market strategies that a multi-business corporation should consider to maximize execution success and firm-level performance? These questions also need to be addressed in the increasingly global context of multi-business firms, where different national cultures may play a role in affecting corporate-level and business-level organizational cultures.

Conclusion

While organization theory-based fit-performance relationships are fundamental to marketing strategy explanations of business performance, the existence and impact of strategy-culture fit has received little empirical attention. Drawing on two different approaches to conceptualizing and assessing fit, we find complex interrelationships among firms' product market strategy decisions and organizational culture orientations consistent with theoretical conceptualizations of strategy-culture fit. We also find evidence linking product market strategy–organizational culture fit and firms' business performance. Our findings provide new empirical insights into theoretical conceptualizations of strategy-culture fit, and the first empirical support for theory propositions linking strategy-culture fit with business performance.

Appendix

Scales Used in the Research

Clan Cultural Orientation (Seven-point scale: 1 = Not at all like us; 7 = Very much like us)

This is a very personal place. It's like an extended family. People seem to share a lot of themselves.

The head of my division is generally considered to be a mentor, sage, or a father or a mother figure.

The glue that holds my division together is loyalty and tradition. Commitment to this firm runs high.

Our company emphasizes human resources. High cohesion and morale in the firm are important.

Adhocracy Cultural Orientation (Seven-point scale: 1 = Not at all like us; 7 = Very much like us)

This is a very dynamic and entrepreneurial place. People are willing to stick their necks out and take risks.

The head of this company is generally considered to be an entrepreneur, an innovator, or a risk taker.

The glue that holds us together is a commitment to innovation and development. There is an emphasis on being first.

Our company emphasizes growth and acquiring new resources. Readiness to meet new challenges is important.

Hierarchy Cultural Orientation (Seven-point scale: 1 = Not at all like us; 7 = Very much like us)

We are an organized and structured place. Detailed procedures help people know what to do.

The head of this company is generally considered to be a coordinator, an organizer, or an administrator.

The glue that holds us together is formal rules and policies. Maintaining a smooth-running institution is important here.

Our company emphasizes permanence and stability. Efficient, smooth operations are important.

Market Cultural Orientation (Seven-point scale: 1 = Not at all like us; 7 = Very much like us)

Our firm is very production oriented. The major concern is with getting the job done. People aren't very personally involved.

The head of this company is generally considered to be a producer, a technician, or a hard-driver.

The glue that holds us together is an emphasis on tasks and goal accomplishment. A production orientation is shared.

Our company emphasizes competitive actions and achievement. Measurable goals are important.

Superior Product/Service (Seven-point scale: 1 = Not at all; 7 = To a great extent)

To what extent is the strategy of your business…

… to provide unique services?

… to offer highly differentiated services?

… to offer a high degree of value in your services?

… to offer services with distinctly different features from those of competing services?

Lowering Delivered Cost (Seven-point scale: 1 = Not at all; 7 = To a great extent)

To what extent is the strategy of your business…

… to invest in cost saving technology?

… to emphasize efficiency?

… to redesign services to reduce costs?

… to strive for high volume to spread costs?

Product Market Scope (Seven-point scale: 1 = Not at all; 7 = To a great extent)

To what extent is the strategy of your business…

… to stick to your own geographic area or shipper types?

… to offer only a few services specifically designed for your customers?

… to appeal to a specific "niche" in the marketplace?

… to focus your efforts on a particular type of customer or type of freight?

Customer Satisfaction (Mean Score of Customer Ratings)

To what extent does this carrier live up to your general expectations for them (1 = Much worse than expected; 10 = Much better).

Imagine the perfect motor carrier. How far/close does this carrier come to your ideal (1 = Very far from ideal; 10 = Very close).

Given your experience with this carrier, how satisfied or dissatisfied are you with their performance (1 = Very dissatisfied; 10 = Very satisfied).

CFROA (Net operating Income + Depreciation and Amortization – Disposal of Assets)/Total Assets

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