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# Is Market Orientation a Source of Sustainable Competitive Advantage or Simply the Cost of Competing?

The authors use panel data constructed from the responses of repeatedly surveyed top managers at 261 companies regarding their firm's market orientation, along with objective performance measures, to investigate the influence of market orientation on performance for a nine-year period from 1997 to 2005. The authors measure market orientation in 1997, 2001, and 2005 and estimate it in the interval between these measurement periods. The analyses indicate that market orientation has a positive effect on business performance in both the short and the long run. However, the sustained advantage in business performance from having a market orientation is greater for the firms that are early to develop a market orientation. These firms also gain more in sales and profit than firms that are late in developing a market orientation. Firms that adopt a market orientation may also realize additional benefit in the form of a lift in sales and profit due to a carryover effect. Market orientation should have a more pronounced effect on a firm's profit than sales because a market orientation focuses efforts on customer retention rather than on acquisition. Environmental turbulence and competitive intensity moderate the main effect of market orientation on business performance, but the moderating effects are greater in the 1990s than in the 2000s.

**Keywords:** market orientation, customer relationship management, longitudinal, sustainable competitive advantage, business performance

As businesses become increasingly competitive, marketers must identify routes for improved measurement of [investments in marketing activities]. (Scaze 2001, p. 1)

**D**ynamism in business environments caused by economic slowdown or growth, competitive intensity, globalization, mergers and acquisitions, and rapid-fire product and technological innovations challenges top managers' ability to sense and respond to market changes accurately. The inability to sense and respond to market changes quickly has led to the demise of many firms with household names, including Kmart and Circuit City. Therefore, it is critical that managers identify and understand strategic orientations that enable a firm to sustain perfor-

mance, especially in the presence of rapid changes in market conditions.

The marketing concept that has existed for many years was one of the first strategic frameworks that provided firms with a sustainable competitive advantage (SCA). Academics first began recognizing and operationalizing the marketing concept as "market orientation" in the 1990s (Kohli and Jaworski 1990). During the past 20 years, hundreds of articles have been published on market orientation's effect on business performance (Kirca, Jayachandran, and Bearden 2005). However, few studies have investigated the longer-term benefits of market orientation (for exceptions, see Gebhardt, Carpenter, and Sherry 2006; Noble, Sinha, and Kumar 2002), and almost nothing has been published on this relationship using longitudinal data. This is an important gap because obtaining business sustainability remains a key concern for senior managers. Thus, a replication and extension of prior work is needed, using a longer horizon to validate the full extent of market orientation's time-varying effect on business performance. Therefore, in this study, we use existing measures from the literature to assess the performance of market orientation on long-term business performance. Our two specific questions are as follows: (1) Does market orientation create a source of SCA, or is it a requirement that companies face when competing in today's business environment? and (2) How much is gained, and how long can firms expect the advantages from developing a market orientation to hold?

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## Market Orientation and Long-Term Performance

The literature suggests that market orientation's primary objective is to deliver superior customer value, which is based on knowledge derived from customer and competitor analyses and the process by which this knowledge is gained and disseminated throughout the organization (e.g., Felton 1959; Narver and Slater 1990). A superior understanding of customer needs, competitive actions (i.e., industry structure and positional advantages), and market trends enables a market-oriented firm to identify and develop capabilities that are necessary for long-term performance (Day 1994). Investments in capabilities, such as active information acquisition through multiple channels (e.g., sales force, channel partners, suppliers), incorporation of the customer's voice into every aspect of the firm's activities, and rapid sharing and dissemination of knowledge of the firm's customers and competition, take time to provide returns. For example, investments in improving customer satisfaction affect firm performance through improved customer retention and profitability. However, these benefits from improving customer satisfaction are more likely to be observed in the long run than in the short run.

Market orientation is a capability and the principal cultural foundation of learning organizations (Deshpandé and Farley 1998; Slater and Narver 1995). Through constant acquisition of information regarding customers and competition and the sharing of this information within an organization, market-oriented firms are well positioned to develop an organizational memory, a key ingredient for developing a learning organization. Furthermore, a market orientation encourages a culture of experimentation and a focus on continuously improving the firm's process and systems. This implies that developing and improving on a firm's market orientation may make a firm's capabilities become more distinctive (relative to the competition) over the long run, resulting in SCA.

There are also reasons to believe that market orientation may not provide an SCA. First, a market orientation may lead a firm to narrowly focus its efforts on current customers and their stated needs (i.e., adaptive learning versus generative learning; Hamel and Prahalad 1994; Slater and Narver 1995). Such a narrow focus could lead to market-oriented firms not anticipating threats from nontraditional sources, thus restricting a market orientation's capability to provide an SCA. Second, and most important, a market orientation can provide long-term performance benefits if it is not imitable by the competition. Capabilities and processes are not imitable if they provide firms with tacit knowledge that enables them to understand customers' latent needs (Day 1994). However, such a tacit knowledge base is developed only if firms adopt a broader and more proactive approach to market orientation (Slater and Narver 1998). Finally, it is widely accepted that a firm's only sustainable advantage is its ability to learn and anticipate market trends faster than the competition (De Geus 1988).

Again, the majority of the published empirical support for the benefits of market orientation is based on cross-sectional databases. Therefore, our knowledge is limited to market

orientation's influences on static measures of performance. Cross-sectional databases cannot control for potentially unobservable, firm-specific effects and cannot uncover the time-varying effects of market orientation. For example, Gauzeite (2001) suggests that there are three aspects of time that affect market orientation and its impact on performance: (1) lagged, (2) threshold, and (3) cumulative effects. Therefore, empirical studies examining market orientation's influence on business performance over time would provide a more complete view of the benefits associated with developing and improving a market orientation. The few longitudinal studies that exist show no long-term relationship between market orientation and return on investment, which indicates that a market orientation may be too costly and that the returns are not large enough to justify the cost of implementation (Narver, Jacobson, and Slater 1999).

In summary, the ability of market orientation to provide an SCA is still unresolved, because the evolutionary nature of a market orientation–performance relationship has not been satisfactorily addressed. In this study, we treat a market orientation–performance relationship more realistically and more fully as an unfolding process rather than a discrete event. Our longitudinal study design enables us to provide further insights into the dynamic nature of market orientation's effect on business performance.

## Effect of Competition

Prior theoretical and empirical research has investigated the effect of market orientation of a firm independent of the orientation of the competitors in the industry. Thus, a fundamental question regarding market orientation still remains unanswered: Does a market orientation still provide a competitive advantage if the firm's competitors are also market oriented? In other words, as more firms in an industry become market oriented, does a firm's market orientation transform from being a success provider to being a failure preventer? That is, do moderate or high levels of effort to maintain a market orientation only prevent failure and not necessarily improve performance (Varadarajan 1985)?

Related to this, firms investing in developing a market orientation want to know the advantages obtained from being the first to adopt a market orientation in an industry. Early adopters of market orientation can obtain insights into customer needs before the competition. Responding to these customer insights through the development of product or service innovations can provide firms with improved business performance. However, rarely is a product or service safe from imitation by competition. Furthermore, competitors can develop their own system and culture of being market oriented and can potentially change the market structure as well. For example, pharmaceutical companies derive competitive advantages while their products are under exclusive patents, which provides them lead time in developing SCA while they recoup research-and-development costs. However, competitors often develop and patent "similar" formularies, which could lead to industry equilibrium. An example in the technology industry is the competition between IBM and Hewlett-Packard. Although IBM pioneered the concept of a single firm providing hardware,

software, and services, which provided lead time in developing an SCA, Hewlett-Packard matched this concept eventually and surpassed IBM in becoming the largest information technology firm in the world.

Using a unique panel data set obtained from (1) repeated surveys of top managers regarding their market orientation and (2) objective measures of business performance, we provide empirical evidence for first-adopter advantages with regard to developing a market orientation. Our study offers new insights at a critical time in business history by more fully explicating market orientation's influence on business performance. We examine the business performance–market orientation relationship and investigate whether it has changed over the 1997–2005 period. This gives us a view of the short-term and long-term effects of having a market orientation. It also enables us to determine whether these effects have changed over the nine years under study. In this study, we refer to the effect of market orientation in a particular year on business performance in that year (i.e., the current or contemporaneous effect) as the short-term effect of market orientation. The long-term effect refers to the cumulated effect of market orientation from the prior years on business performance in a particular year and includes the current period's effect of market orientation.

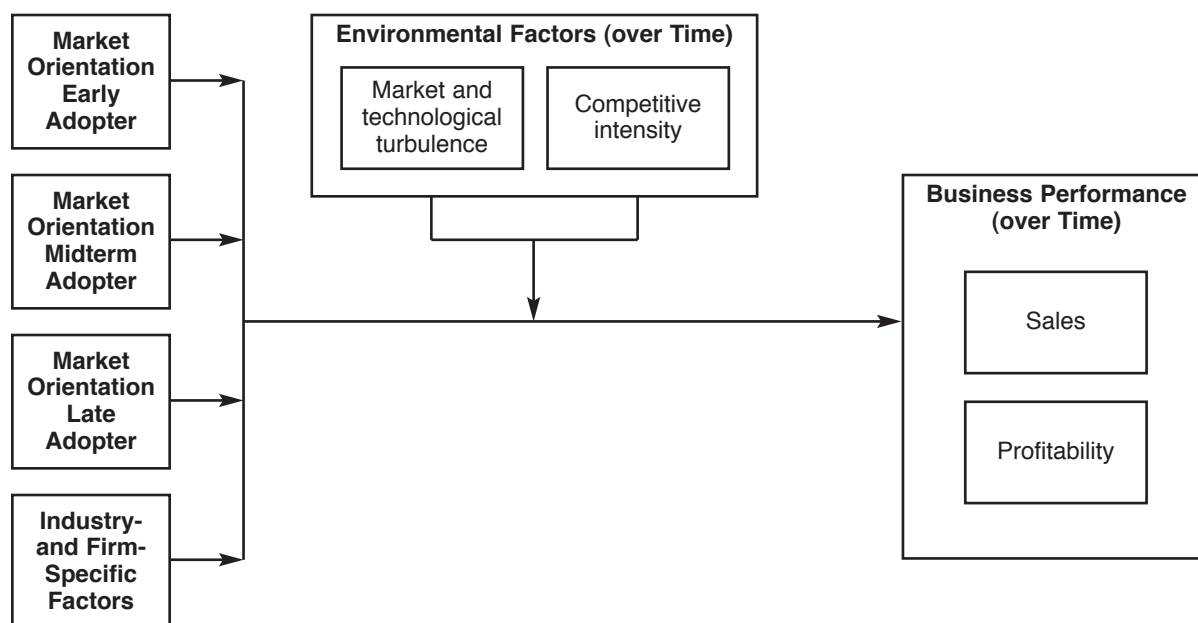
To be consistent with prior studies and avoid model misspecification, we also include environmental variables (turbulence and competitive intensity) as moderators of the relationship between market orientation and business performance, and we examine these effects over a longer period than prior studies. Including the environmental moderators enables us to evaluate whether market orientation is a source of SCA when rapid changes occur in market conditions. As Figure 1 illustrates, use of these panel data per-

taining to market orientation, environmental moderators, and business performance enables us to assess the evolving nature of market orientation on business performance. Figure 1 depicts the relationships that we test in this study.

Our analyses indicate that market orientation had a positive effect on business performance in both the short and the long run. However, the sustained advantage in business performance from having a market orientation was greater for the first (early) adopters in an industry. The firms that were early to develop a market orientation gained more in sales and profit than firms that were late to develop a market orientation. Furthermore, firms that adopted a market orientation early also realized the benefit of a bonus in the form of a lift in sales and profit due to a carryover effect that lasted up to three periods. By computing measures of elasticity, it is possible to assess whether market orientation has a more pronounced effect on a firm's profit than sales. Because market orientation focuses a firm's efforts on customer retention rather than on acquisition, market orientation should give a greater lift to profit than to sales. Environmental turbulence and competitive intensity moderated the main effect of market orientation on business performance, but the moderating effect was greater in the 1990s than in the 2000s.

Devoting resources to market orientation can be a costly and slow process. Thus, in addition to testing theory, the research findings are useful to managers who are reevaluating their decision to continue investing in building market-oriented organizations. A long-term view reinforces the impact of implementing and maintaining a market orientation on sustained improvements in business performance. Our study contributes to the literature by evaluating, for the first time, (1) the long-term effects of market orientation on sales and profit, (2) the effect of competition over time on

**FIGURE 1**  
**Market Orientation on Business Performance over Time: Main and Contingent Effects**



the relationship between market orientation and a firm's business performance, and (3) the time-varying effects of the previously studied moderators on a market orientation–business performance relationship. In the sections that follow, we review the existing literature, propose and test hypotheses arising from our review, discuss the empirical findings, and state several managerial implications.

## Conceptual Background and Hypotheses

### *Market Orientation as a Potential Source of SCA*

Market orientation is the generation and dissemination of organizationwide information and the appropriate responses related to customer needs and preferences and the competition (Kohli and Jaworski 1990). A market orientation positions an organization for better performance because top management and other employees have both information on customers' implicit and expressed needs and competitors' strengths and a strong motivation to achieve superior customer satisfaction (e.g., Pelham 1997). These capabilities can be transformed into an SCA when a firm uniquely has the information and uses the market information efficiently and effectively as part of a process. During the past few years, organizations have embraced a market orientation concept and its purported benefits, which has created an intensely competitive landscape. What happens, then, when the competition is also market oriented? It is important to note that though several valid operationalizations of market orientation exist (for details, see Deshpandé, Farley, and Webster 1998), we follow the capabilities-based definition that Jaworski and Kohli (1993) propose.

### *Empirical Evidence of a Market Orientation–Business Performance Link*

*Main effects.* Prior research has illustrated that a high degree of market orientation in an organization leads to short-term improvements in sales and profitability growth, market share, new product success, customer satisfaction, and return on assets, compared with other organizations that are not as highly market oriented (Deshpandé, Farley, and Webster 1993; Jaworski and Kohli 1993; Slater and Narver 1994). At the same time, market orientation is not associated with superior performance after a crisis (Grewal and Tansuhaj 2001), in the theater industry (Voss and Voss 2000), and in the retail industry (Noble, Sinha, and Kumar 2002).

The vast literature regarding the positional advantages of first (early) adopters and the capabilities of later entrants is relevant to our study. Organizational innovations such as market orientation provide more durable cost and differentiation advantages than product or process innovations (Lieberman and Montgomery 1988). Firms that are first to adopt a market orientation tend to be more capable of identifying customer needs that are unmet in their industry and respond by developing new products or services. They may also enjoy greater elasticity from their marketing efforts because there is less clutter for the new products or services, providing a cost advantage for the pioneering market-

oriented firm. Over time, the acquired customers develop switching costs, which lead to higher customer retention and a differential advantage for the pioneering market-oriented firm (Kerin, Varadarajan, and Peterson 1992).

However, a market orientation may also provide a competitive advantage only as long as this capability is distinct in the market. The pioneering market-oriented firm's competitive advantage is ultimately contingent on its other skills and resources (e.g., distribution capability, research-and-development expertise), the competitors' strategy, and changes in the environment (Lieberman and Montgomery 1990). Firms that are later adopters of market orientation can also learn from the pioneer's mistakes and therefore be more effective and efficient in (1) developing market-oriented capabilities in their organizations and (2) responding to customer needs.

Market orientation is an ongoing effort, and firms can increase their level of market orientation in response to competition or later adopters of market orientation. However, there is little guidance in the literature on whether threshold effects to being market oriented exist. One view on market orientation is that firms may narrowly define existing customers as their served market, and in this case, a market orientation may be detrimental to the firm. It is also possible that, over time, as other firms adopt a market orientation, market orientation transforms from being a success provider to being a failure preventer (Varadarajan 1985). In other words, there may be thresholds beyond which further focus on and improvements to market orientation do not provide corresponding returns in profit and sales. This diminishing effect may also arise when customers begin to expect a certain level of product value and service quality from market-oriented firms. This could lead to a reduced marginal effect of market orientation on business performance in the long run. Therefore, balancing the positional advantages of the first (early) adopters of market orientation and the capabilities and efficiencies that are possible for later adopters, we propose the following:

H<sub>1</sub>: The relationship between (a) market orientation and sales and (b) market orientation and profit is initially positive, but this effect decreases over time.

Day and Wensley (1988) purport that investigating the moderating influence of the industry environment on a market orientation–performance relationship is of paramount importance, and thus marketing researchers have pursued external environmental factors and acknowledged that they can moderate market orientation's effect on business performance (Gatignon and Xuereb 1997; Greenley 1995; Grewal and Tansuhaj 2001; Han, Kim, and Srivastava 1998; Jaworski and Kohli 1993; Slater and Narver 1994; Voss and Voss 2000). Similar to the main effects, previous research has investigated only the short-term moderating effects of environmental factors on a market orientation–business performance relationship. We extend prior literature by providing theoretical arguments for the effects of environmental conditions on a market orientation–performance relationship over time. The moderators in our study follow the definitions that Jaworski and Kohli (1993) posit.

*Market orientation and market turbulence.* Garnering knowledge from retained customers about their preferences (and needs) and maintaining a learning orientation are characteristics of market-oriented organizations. When marketers understand how much a given customer might be worth to the organization over time, they can tailor the product/service offering according to that customer's changing needs and requirements and still ensure an adequate lifetime return on investment (Berger et al. 2002). Therefore, market-oriented organizations are capable of better customer retention (Narver, Jacobson, and Slater 1999). These resources lead to better performance in the long run, especially in highly turbulent markets in which customer preferences are constantly changing.

Similar to the rationale for the main effects, we propose that as more firms become market oriented, the capability of a particular market-oriented organization is no longer unique, because customers begin to expect a certain quality of products and services from market-oriented firms. Furthermore, the benefit market-oriented firms obtain in turbulent markets is diminished when competitors are also market oriented. Together, these effects lead to a diminishing effect of market orientation on business performance over time. As more firms in an industry become market oriented, each of them is capable of delivering value and retaining customers even when the customers' needs are constantly changing. Economic theory has found similar "stability in competition" effects over time as markets reach equilibrium (Hotelling 1929). Therefore, the moderating effect of market turbulence is diminished over time. Although a market-oriented firm still has better performance in markets with greater turbulence than those that are more stable, this incremental benefit decreases over time. Thus:

H<sub>2</sub>: Market turbulence positively moderates the relationship between (a) market orientation and sales and (b) market orientation and profit, but this positive moderating effect diminishes over time.

*Market orientation and technological turbulence.* On the basis of the theoretical arguments advanced in prior research, we hypothesize that, initially (i.e., in the 1990s), a high level of technological turbulence diminished the influence of market orientation on growth in sales and profit. In markets with high technological turbulence, the characteristics of products and services are largely determined by innovations both within and outside the industry. In such cases, a learning orientation and knowledge about customer preferences do not necessarily contribute initially to long-term performance. Before the late entrants also become market oriented, technological turbulence is especially disadvantageous for the early adopters of market orientation because the other firms are more receptive to technological trends than market-oriented firms (Slater and Narver 1994). However, as more firms become market oriented in an industry, both the early and the late adopters are equally disadvantaged in markets with high levels of technological turbulence. Although market-oriented firms perform worse in markets with high technological turbulence than in those with less volatility in technology, the disadvantage diminishes over time. Thus:

H<sub>3</sub>: Technological turbulence negatively moderates the relationship between (a) market orientation and sales and (b) market orientation and profit, but this negative moderating effect diminishes over time.

*Market orientation and competitive intensity.* In the absence of competition, customers are "stuck" with an organization's products and services. In contrast, under conditions of high competitive intensity, customers have many alternative options to satisfy their needs and requirements. Over time, however, competitive intensity can enhance the effects of market orientation on performance as market-oriented firms in the same industry increase their capabilities and processes (e.g., optimal resource allocation) to retain key customers. In effect, this creates quasi "barriers to entry" for other competing firms that are not market oriented. Highly market-oriented firms are also uniquely capable of responding to and preempting competitive threats in a timely manner, which facilitates the attainment of higher sales and profit. Thus, in highly competitive markets, the companies with a greater market orientation are capable of better performance.

However, the moderating effect of competitive intensity decreases as more firms in an industry become market oriented. In other words, the incremental benefit of being an early adopter of market orientation decreases over time. When the late entrants also become market oriented, every firm is capable of understanding the strengths of its competition and anticipating competitive moves. This enables each firm to provide differentiated value to its customers, thus ensuring customer retention and profitability. This notion implies that a high degree of competition equally benefits all the firms in the industry. Therefore, the moderating effect of competitive intensity should decrease over time. Thus:

H<sub>4</sub>: Competitive intensity positively moderates the relationship between (a) market orientation and sales and (b) market orientation and profit, but this positive moderating effect diminishes over time.

We submit these hypotheses to empirical tests using panel data analytics on data gathered through multiple sources. We used subjective and objective data to uncover the effects of market orientation levels on short- and long-term sales and profit.

## Methodology

### Measures

*Market orientation and environmental moderators.* We measured market orientation and environmental moderators using the scales Jaworski and Kohli (1993) developed. For each component, we used the mean value of all the items listed under the respective component for the analyses.

*Business performance.* Our study includes sales and net income in a single study. Often, firms exhibit differential effects on these two performance measures. We obtained the objective measures of sales and net income (pure profit after sales) from multiple sources, including annual reports; publications, such as *Beverage World* and *The Wall Street*

*Journal*; and industry reports. We also obtained subjective measures of performance on both net income and sales from the responding firms. Following Jaworski and Kohli's (1993) approach, we measured subjective performance on a five-point scale ranging from "excellent" to "poor." The items we used to measure subjective performance include "Your overall performance of the firm/business unit with respect to net income in the year ... was?" and "Your overall performance of the firm/business unit relative to major competitors with respect to net income in the year ... was?" (we used similar items for sales).

### **Survey Methodology**

We conducted the study with data obtained from three waves of surveys. We conducted Survey 1 (1997) at the beginning of the study to obtain data for the measures in the short run. We conducted Survey 2 (2001) four years later to obtain data for the same measures in the medium run. Finally, we conducted Survey 3 (2005) eight years later to obtain data for the same measures in the long run. In other words, over a nine-year period, we collected three sets of measures at intervals of four years.

*Survey 1.* We designed a sampling plan that allowed top managers from different organizational environments to respond to questions regarding their perceptions of market orientation in their respective organizations, competitive intensity, and environmental turbulence in their respective industries. We conducted interviews with the chief executive officer, president, or vice president and the head of the marketing group of each company; that is, we solicited two responses from each organization: one response from the organization's top executive and the other from the head of the marketing group. We obtained the responses to the survey in a multistep process. First, we made an appointment by calling the top managers of each firm, and second, we obtained permission to fax the questionnaire. Finally, we made another appointment to conduct the actual interview over the telephone. Approximately 10% of the executives faxed the surveys back, indicating they lacked the time to participate in the process.

We conducted the first survey during the third quarter of 1997.<sup>1</sup> We obtained usable responses from the top managers in 300 organizations nationwide from a total of 1000 publicly listed organizations contacted, for an effective response rate of 30%.<sup>2</sup> We selected the industries in accordance with Standard Industrialization Classification (SIC) codes; these include manufacturers (33%), distributors (9%), retailers (16%), service industries (30%), and other (12%). We compared the responses from the first 80% with the responses from the last 20% of respondents to check for any differences in the response pattern. We detected no significant differences, indicating that late-response bias did not affect the sample (Aaker et al. 2010). We also performed the following set of analyses to test for any bias in

our sample of responding firms: First, we compared the mean sales of the firm in a SIC code with the mean sales of the responding firms and nonresponding firms. We did not observe any significant difference in the statistical test for differences in the mean sales. Second, we obtained the percentage of firms above and below the mean sales in a SIC code and compared it with the percentages in the respondent and nonrespondent samples. The chi-square test showed no significant differences, indicating that there are no systematic differences between the respondent and the nonrespondent samples. In designing the sampling frame for the study, we selected an equal number of firms from each industry category. However, our responses do not follow a similar pattern. To avoid any sample set response bias, we included industry category as a control variable in our model.

Two responses were available for the 300 firms surveyed. Correlations between the two responses range from .70 to .91 across all items. The results reflect more than one person's opinion and yield reliability for the responses provided in a single firm. Whenever results were available from two respondents from a single company, we used the average of their responses in our analyses (e.g., Deshpandé, Farley, and Webster 1993; Jaworski and Kohli 1993).

*Survey 2.* We contacted the same 300 firms that provided the responses in the first survey to obtain the data in the second survey. The procedure we adopted for obtaining the responses from the second survey was identical to that of the first survey.<sup>3</sup> We again collected two responses (one from top management and the other from the head of marketing) from the organizations that responded to the first survey. We conducted the second survey during the third quarter of 2001. We obtained responses for the same measures as in the first survey. However, we also collected information about any major events (e.g., if the firms either dropped their market orientation or adopted a market orientation) that took place in the period between the first and the second survey. We asked the respondents, "Did your organization undertake a major shift in its cultural focus?" If they answered yes, we asked whether they "made efforts to orient their organizations toward/away from a market orientation." From all the responses we obtained in the second survey, for the purpose of the analysis, only 269 were usable.

*Survey 3.* We contacted the same 269 firms that provided the responses in the second survey to obtain data in the third survey. The procedure we adopted for obtaining the responses from the third survey was identical to that of the first and second surveys.<sup>4</sup> We again collected two responses (one from top management and the other from the

<sup>1</sup>After the end of fiscal year 1997.

<sup>2</sup>In our survey, we included a question on the time since the organization adopted a market-oriented strategy. In our sample, we included firms that indicated that it had been only a year or less since they initiated a market orientation.

<sup>3</sup>To the extent possible, we obtained the responses in Survey 2 from the same respondents as in Survey 1. We obtained more than 70% of the responses from the same respondent in the organization. When the respondent was not available during Survey 2, we approached the respondent with the same functional responsibilities.

<sup>4</sup>To the extent possible, we obtained the responses in Survey 3 from the same respondents as in Survey 2. We obtained more than 75% of the responses from the same respondent in the organization. When the respondent was not available during Survey 3, we approached the respondent with the same functional responsibilities.

head of marketing) from the organizations that responded to the first survey. We conducted the third survey during the third quarter of 2005. We obtained responses for the same measures as in the first and second surveys. However, we also collected information about any major events (e.g., if the firms either dropped their market orientation or adopted a market orientation) that took place in the period between the second and the third survey. We asked the respondents, "Did your organization undertake a major shift in its cultural focus?" If they answered yes, we asked whether they "made efforts to orient their organizations toward/away from a market orientation." From all the responses we obtained in the third survey, for the purpose of the analysis, only 261 were usable.

The key premises of the hypotheses rest on the validity of the measures. Therefore, we performed a factor analysis for all components of our measures. The items for market

orientation and the external moderators all loaded on their appropriate factors in both surveys. We also conducted a reliability test for the items and found that all the items had a coefficient alpha greater than .70. We report the reliabilities of the items used in the survey in Table 1, and we report the descriptive statistics for the data collected in the surveys in Table 2.

### **Model Specification<sup>5</sup>**

As we mentioned previously, because of the complexity and costs associated with the data collection task, we collected

<sup>5</sup>We also tested the effect of the antecedents of market orientation (Kohli and Jaworski 1990) to avoid model misspecification. This provided additional validity to the results we obtained in the study.

**TABLE 1**  
**Reliability Analysis**

Market Orientation Component	Number of Items	Representative Items <sup>a</sup>	Cronbach's $\alpha$		
			1997	2001	2005
Market turbulence	6	<ul style="list-style-type: none"> <li>•In our kind of business, customers' product preferences change quite a bit over time.</li> <li>•We are witnessing demand for our products and services from customers who never bought them before.</li> <li>•We cater to much the same customers that we used to in the past.</li> </ul>	.74	.79	.78
Technological turbulence	5	<ul style="list-style-type: none"> <li>•The technology in our industry is cutthroat.</li> <li>•A large number of new product ideas have been made possible through technological breakthroughs in our industry.</li> </ul>	.87	.85	.88
Competitive intensity	6	<ul style="list-style-type: none"> <li>•Competition in our industry is cutthroat.</li> <li>•There are many promotion wars in our industry.</li> </ul>	.77	.79	.76
Intelligence generation	10	<ul style="list-style-type: none"> <li>•We meet with customers at least once a year to find out what products or services they will need in the future.</li> <li>•We are slow to detect changes in our customers' product preferences.</li> <li>•We periodically review the likely effect of changes in our business environment on customers.</li> </ul>	.76	.79	.77
Intelligence dissemination	8	<ul style="list-style-type: none"> <li>•We have interdepartmental meetings at least once a quarter to discuss market trends and developments.</li> <li>•When something important happens to a major customer or market, the whole organization knows about it in a short period.</li> <li>•When one department finds out something important about competitors, it is slow to alert other departments.</li> </ul>	.86	.88	.89
Response design	7	<ul style="list-style-type: none"> <li>•It takes us forever to decide how to respond to our competitor's price changes.</li> <li>•Our business plans are driven more by technological advances than by market research.</li> <li>•The product lines we sell depend more on internal politics than real market needs.</li> </ul>	.81	.84	.83
Response implementation	7	<ul style="list-style-type: none"> <li>•If a major competitor were to launch an intensive campaign, we would implement a response immediately.</li> <li>•When we find out that customers are unhappy with the quality of our service, we take corrective action immediately.</li> </ul>	.83	.82	.84

<sup>a</sup>The scale items in our study are sourced from Jaworski and Kohli (1993). We reproduce them here for illustrative purposes.

**TABLE 2**  
**Descriptive Statistics**

Variable	M	SD	Mdn	Minimum	Maximum
Market orientation <sub>1997</sub>	3.03	1.08	2.61	1	5
Market orientation <sub>2001</sub>	3.39	.96	2.82	1	5
Market orientation <sub>2005</sub>	3.88	.88	3.64	1	5
Market turbulence <sub>1997</sub>	3.52	.91	3.38	1	5
Market turbulence <sub>2001</sub>	3.47	.84	3.26	1	5
Market turbulence <sub>2005</sub>	3.38	.79	3.21	1	5
Technological turbulence <sub>1997</sub>	2.71	1.06	2.92	1	5
Technological turbulence <sub>2001</sub>	2.62	1.14	2.78	1	5
Technological turbulence <sub>2005</sub>	2.82	1.09	2.97	1	5
Competitive intensity <sub>1997</sub>	2.93	.76	2.85	1	5
Competitive intensity <sub>2001</sub>	3.09	.82	2.96	1	5
Competitive intensity <sub>2005</sub>	3.11	.72	3.02	1	5
Sales <sub>1997</sub> (millions of dollars)	614.4	252.8	581.2	52.7	1418.2
Sales <sub>2001</sub> (millions of dollars)	757.6	231.7	621.3	65.6	1695.5
Sales <sub>2005</sub> (millions of dollars)	811.3	219.8	668.4	78.2	1907.3
Profit <sub>1997</sub> (millions of dollars)	77.9	43.4	72.6	-36.7	184.6
Profit <sub>2001</sub> (millions of dollars)	86.8	41.2	77.3	-21.1	211.3
Profit <sub>2005</sub> (millions of dollars)	92.4	39.6	83.3	-24.4	231.8

the level of market orientation of the sampled firms through three waves of surveys conducted in 1997, 2001, and 2005. Therefore, given that information on the firms' business performance (sales and profit) is available from secondary sources on an annual basis from 1996 to 2006, we needed to interpolate values for market orientation (MO), market turbulence (MT), technological turbulence (TT), and competitive intensity (CI) between 1997 and 2001 and between 2001 and 2005. There are several ways this could be done: (1) We could assume that there was a linear move from one observation to the next over the study periods, (2) we could assume that MO stayed at the same level and then moved to the next value in a step fashion, or (3) we could estimate the unobserved values of MO using a flexible function form that would allow for the possibility of both linear behavior or a nonlinear behavior in MO over the 1997–2005 period. We report the results of the third option. It makes no assumptions about the behavior. Therefore, we estimated the following equation for MO, MT, TT, and CI and used it to estimate the values for the missing years:

$$(1) \quad MO_t = \gamma_0 + \gamma_1(t) + \gamma_2(t)^2 + \text{error}_t,$$

where  $t = 1$  for 1997,  $t = 5$  for 2001, and  $t = 9$  for 2005. After we estimate Equation 1, we observe the value for the parameters in that equation. With the known parameter values, we interpolate the values for  $MO_t$ , where  $t = 2, 3, 4, 6, 7$ , and  $8$ ; so by using these estimates along with the three actual observations ( $t = 1, 5$ , and  $9$ ), we now have a continuous set of values for  $MO_t$  from 1997 to 2005. We adopt a similar method for interpolating the values for MT, TT, and CI for the years in which the survey was not conducted. We then used these estimated values for MO, MT, TT, and CI when  $t = 2, 3, 4, 6, 7$ , and  $8$ , along with the actual values when  $t = 1, 5$ , and  $9$ , in the following model of business performance, which allows the coefficient of MO, MT, TT, and CI to have time-varying effects on business performance (BP):

$$(2) \quad BP_{jtk} = \alpha_{0k} + \alpha_{1k}BP_{j(t-1)k} + \alpha_{2tk}MO_t + \alpha_{3tk}MT_t + \alpha_{4tk}TT_t \\ + \alpha_{5tk}CI_t + \alpha_{6tk}(MO \times MT)_t + \alpha_{7tk}(MO \times TT)_t \\ + \alpha_{8tk}(MO \times CI)_t + \zeta_{1k}\text{Industry Growth Rate}_t \\ + \zeta_{2k}\text{Firm Size}_t + \zeta_{3k}GDP_t + \zeta_{4k}\text{Service} \\ + \zeta_{5k}\text{Retailing and Distribution} + \zeta_{6k}\text{Manufacturing} \\ + \omega_{tk} + \varepsilon_{jk} + \text{error}_{jtk},$$

where

other industry = the base category for the three dummy variables representing the four industries;  
 $k = 1$  if sales is used as the dependent variable, and  $k = 2$  if profit is used as the dependent measure;  
MO = market orientation;  
TT = technological turbulence;  
MT = market turbulence;  
CI = competitive intensity;  
IGR = industry growth rate; and  
 $BP_{itk}$  = business performance at time  $t$  for industry  $j$ , where  $t = 1, 2, \dots, 9$ .

We use

$$(3) \quad \alpha_{itk} = a_{ik} + b_{ik}\ln(\text{time}) + \delta_{ik}$$

to capture the time-varying effect of the key constructs, where  $i$  represents the coefficients for the variables associated with MO, MT, TT, and CI in the model. For example, we can compute the coefficient for market orientation,  $MO_t$ , with the following equation:

$$(4) \quad \alpha_{2tk}(MO)_t = [a_{2k} + b_{2k}\ln(t)]MO_t \\ = a_{2k}MO_t + b_{2k}[\ln(t) \times MO_t] \\ = a_{2k}(MO)_t + b_{2k}[\ln(t) \times MO_t],$$

when  $t = 1$ ; that is, for the first time in our data set,  $\alpha_2(MO)_t = a_2(MO)_t$  because  $\ln(t) = 0$  when  $t = 1$ . For  $t > 1$ , the coefficient of  $(MO)_t = 1$  increases at the rate of  $b_2[\ln(t) \times MO_t]$ .

We estimate Equations 2 and 3 as a hierarchical linear model, but we estimate them jointly. This model specifica-

tion is a cross-section of time-series models. We modeled business performance at time  $t$  ( $BP_{jtk}$ ) as a function of lagged business performance ( $BP_{j(t-1)k}$ ) and the market orientation of the firm. In our model, the coefficient of  $MO_t$  ( $\alpha_{2tk}$ ) measures both the short-term (or instantaneous) effect of market orientation on business performance and the delayed effect. We hypothesize that the effect of market orientation diminishes over time as other competitors also become market oriented. We can make this inference because more firms in our data became market oriented over time in all the industries studied (see Figure 2). Therefore, we do not need to explicitly model industry fixed effects or the effect of the number of competitors that are market oriented in each period to assess changes in the effect of market orientation on business performance as the competition also becomes market oriented.

We also conducted the tests for moderator variables using the foregoing equations. We conducted the moderator tests for competitive intensity and environmental turbulence by analyzing the interaction effects of the corresponding variables with market orientation (Baron and Kenny 1986). The interpretation of the multiplicative interaction terms of the environmental variables is similar to the interpretation of the short-term and long-term effects of market orientation. We included industry growth rate, firm size, and industry category in our model as control variables to account for firm-specific effects (i.e., heterogeneity across firms) and to avoid model misspecification (Jacobson 1990).

### Analyzing Cross-Sectional Time-Series Data

An alternative to the model structure we just described would be to estimate three separate cross-sectional regressions, using the data in 1997, 2001, and 2005 to capture the effect of market orientation on business performance. We would then compare the coefficients across these three cross-sectional regressions to observe the short-term effect of market orientation for early and late adopters of market orientation. Most of the studies to date in this area have

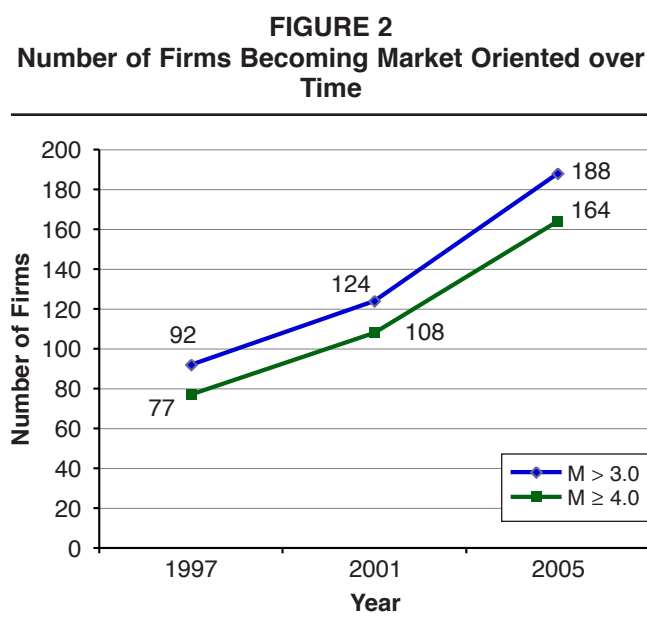
adopted this approach and analyzed cross-sectional data, but only at a single point in time, not across multiple periods. Cross-sectional analyses have led to significant generalizations regarding the impact of explanatory variables on market orientation, but analyses based on cross-sectional and time-series (CS/TS) data (similar to the model structure proposed in Equation 1) may be even more fruitful given that they offer several advantages over only cross-sectional models.

First, using CS/TS data allows for the generalizability of results over time. In contrast, cross-sectional data provide only a “snapshot” specific to a given period. Inferences drawn from such data could be biased by idiosyncrasies associated with the specific period studied. Second, market orientation can change over time for a firm. Analysis of this important component of variation can be accomplished only by using CS/TS data. Third, CS/TS data increase the degrees of freedom available for estimation (analyzing  $n$  firms over  $t$  periods provides  $n$  observations versus  $n$  observations in cross-sectional analysis), thus enhancing the stability of parameter estimates. Fourth, analyzing CS/TS data affords a richer space of variation to estimate the parameters and possibly reduces the level of multicollinearity that might otherwise be present (Brobst and Gates 1977). Finally, the CS/TS data enable us to estimate the diminishing effects of market orientation more reliably because we have more data points on business performance. Before such pooled CS/TS data can be analyzed, the criteria for data homogeneity (i.e., pooling tests) must be fulfilled for the model form under consideration (Bass and Wittink 1975; Fuller and Battese 1974; Kumar and Leone 1988).

### Data Homogeneity Test

Bass (1974) shows that incorrect inferences can be drawn in a cross-sectional regression analysis if data from heterogeneous firms/industries are pooled. Conceptually, the model in Equation 2 could be estimated using ordinary least squares regression at the firm level. This procedure would imply that the effect of each of the independent variables differs among firms (e.g., the regression coefficients for each variable are unique for each firm). It would also require estimating 32 parameters, which is not possible given the number of observations. If the 261 firms were grouped by their industry category—retailing and distribution ( $n = 87$ ), manufacturing ( $n = 80$ ), service ( $n = 90$ ), and other ( $n = 4$ )—there would be more observations. However, doing so may still lead to inefficient estimates of the coefficients because of the number of parameters estimated in relation to the sample size. Given the CS/TS nature of these data and the lack of an a priori theoretical reason for the regression coefficients to differ across firms, pooling data across the 261 firms enables us to estimate the 35 parameters (32 plus 3 more for industry groups, with the base category being “other”) with 2610 observations.

Bass and Wittink (1975) propose pooling tests to measure the constancy of the regression parameters across cross-sections, and we used their test to decide whether to pool the series. Because Brobst and Gates (1977) show that this test is biased toward rejecting the null hypothesis ( $H_0$ : pooling is appropriate), we chose a conservative alpha value of .01 for the test of statistical significance. If pooling is



appropriate, the parameters can be estimated in various ways. Most researchers reporting empirical work on sales response models in the marketing literature have simply stacked the cross-sections and estimated the parameters by using ordinary least squares regression. However, pooled models can be estimated with procedures that allow both cross-sectional and time-series variations in the data through the specification of the error structure (Fuller and Battese 1974; Maddala 1971). Because we found pooling to be appropriate (the corresponding F-statistic was not significant;  $p > .05$ ), we used the Fuller–Battese procedure to estimate the pooled models. Using the Fuller–Battese procedure involves specifying the error term in Equation 2 as a cross-sectional error term, a time-series error term, and a random error term.

## Results

### Market Orientation and Business Performance

*Model performance.* We report the results of our analyses with objective measures of performance as the dependent variable. The adjusted R-square for the sales response model (1) with just the main effects is .42; (2) with main and interaction effects is .50; and (3) with main, interaction, covariates, and time-varying effects is .65. In other words, the adjusted R-square for the model investigating the influence of market orientation and external environmental moderators on sales is .65.<sup>6</sup> The adjusted R-square of the model that included only the firm-specific effects (industry growth, firm size, and industry category) is .08. The reported coefficients are standardized values; we report these in Table 3. An analysis of residuals using the normal probability plot and White's (1980) test did not reveal any significant heteroskedasticity among the residuals. In addition, the variance inflation factor did not exceed the recommended limit of 10, indicating that multicollinearity is not a serious threat to our analysis. We observed similar results for the profit response model. The adjusted R-square for the model investigating the influence of market orientation and external environmental moderators on profit is .66. The adjusted R-square of the model that included only the firm-specific effects (industry growth, firm size, and industry category) is .10. We also estimated the model with the maximum likelihood procedure and found similar results.

*Interpretation of coefficients.* The estimated coefficient of the main effect of market orientation in 1997 on sales in time  $t$  is positive and significant ( $\alpha_{21} = .396$ ,  $p < .01$ ).<sup>7</sup> Mar-

<sup>6</sup>The substantive conclusions of the study do not change when we use subjective dependent measures. The correlation between objective and subjective measures of performance is approximately .8.

<sup>7</sup>We observe the coefficients for market orientation on sales and profit to vary within 10% of what we report here for the two forms of interpolation of market orientation value. The first option is a linear interpolation of missing market orientation values. The second option assumes that market orientation stays at the previous value during the missing period and then moves to the new value in a step fashion. We observe similar results for other variables, indicating the robustness of the findings.

**TABLE 3**  
**Effect of Market Orientation on Sales and Profit**

Dependent Variable: Sales <sub>t</sub>	
<b>Intercept</b>	
Sales <sub>t-1</sub>	.305***
Market turbulence <sub>1997</sub>	.163***
Technological turbulence <sub>1997</sub>	-.12**
Competitive intensity <sub>1997</sub>	n.s.
Market orientation <sub>1997</sub>	.396***
(Market orientation × market turbulence) <sub>1997</sub>	.154***
(Market orientation × technological turbulence) <sub>1997</sub>	-.207***
(Market orientation × competitive intensity) <sub>1997</sub>	.146***
Industry growth rate	.185**
Firm size	.217**
GDP	.091*
<b>Industry Category</b>	
Services	.147**
Retailer and distribution	.121**
Manufacturing	.107**
Dependent Variable: Profit <sub>t</sub>	
<b>Intercept</b>	
Profit <sub>t-1</sub>	.334***
Market turbulence <sub>1997</sub>	.187***
Technological turbulence <sub>1997</sub>	-.1**
Competitive intensity <sub>1997</sub>	n.s.
Market orientation <sub>1997</sub>	.443***
(Market orientation × market turbulence) <sub>1997</sub>	.163***
(Market orientation × technological turbulence) <sub>1997</sub>	-.148***
(Market orientation × competitive intensity) <sub>1997</sub>	.12***
Industry growth rate	.208**
Firm size	.226**
GDP	.072*
<b>Industry Category</b>	
Services	.131**
Retailer and distribution	.128**
Manufacturing	.093**

\* $p < .10$ .

\*\* $p < .05$ .

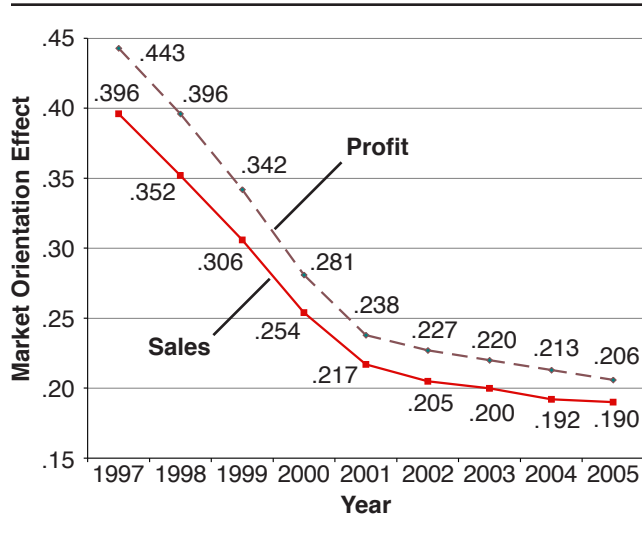
\*\*\* $p < .01$ .

Notes: n.s. = not significant.

ket orientation has a similar effect on firm profit. The estimated coefficient of the main effect of market orientation in 1997 on profit in time  $t$  is positive and significant ( $\alpha_{22} = .443$ ,  $p < .01$ ). The parameter estimate for the time-varying effect of the coefficient of market orientation on sales is  $-.105$  ( $b_{21}$ ) for  $\ln(\text{time})$ , as specified in Equation 3. Similarly, for the profit equation, the corresponding value is  $-.120$  ( $b_{22}$ ). In both these equations, the coefficient for  $\ln(\text{time})$  is significant ( $p < .01$ ). Therefore, we can conclude that  $H_{1a}$  and  $H_{1b}$  are statistically supported. We show the diminishing effects of market orientation on sales and profit over time in Figure 3.

We observe that market orientation in 1997 has a greater effect on business performance (for sales,  $\alpha_{21} = .396$ ; for profit,  $\alpha_{22} = .443$ ) than market orientation in the years that

**FIGURE 3**  
**Diminishing Effect of Market Orientation on Sales and Profit**



follow. The effect of market orientation on sales decreases to .217 and .190 in 2001 and 2005, respectively. Similarly, the effect of market orientation on profit decreases to .238 and .206 in 2001 and 2005, respectively. The results also reveal that market orientation has a positive influence on sales and profit in both the short and the long run. This implies that the same level of market orientation in 1997 had a greater impact on business performance than in subsequent years. In other words, firms that were the first (early) adopters with regard to developing a market orientation experienced a greater impact from market orientation than those that adopted market orientation in later years. Table 3 also shows that the lagged effect of sales ( $\alpha_{11}$ ) is equal to .305 and the lagged effect of profit ( $\alpha_{12}$ ) is equal to .334. This also implies that the influence of market orientation at any time  $t$  continues to have an influence on sales for three years, albeit at a diminishing rate. The carryover effect of market orientation on profit is marginally greater than the carryover effect of market orientation on sales.

### Environmental Moderators

Because the coefficient of the interactions between market orientation and environmental moderators is significant, we do not interpret the main effects of the environmental factors. The estimated coefficient of the interaction terms between market orientation and market turbulence in 1997 on sales at time  $t$  is positive and significant ( $\alpha_{61} = .154$ ), and the corresponding effect on profit at time  $t$  is also positive and significant ( $\alpha_{62} = .163$ ). This implies that the positive influence of market orientation on business performance in both the short and the long run is enhanced in markets with high market turbulence. The moderating effect of market turbulence is greater in 1997 than in future years, indicating that as more firms become market oriented, a competitive advantage can diminish while still giving the lift in performance. Through similar tests of significance (described previously) using the 95% confidence intervals for the parameter estimates, we observed support for all the

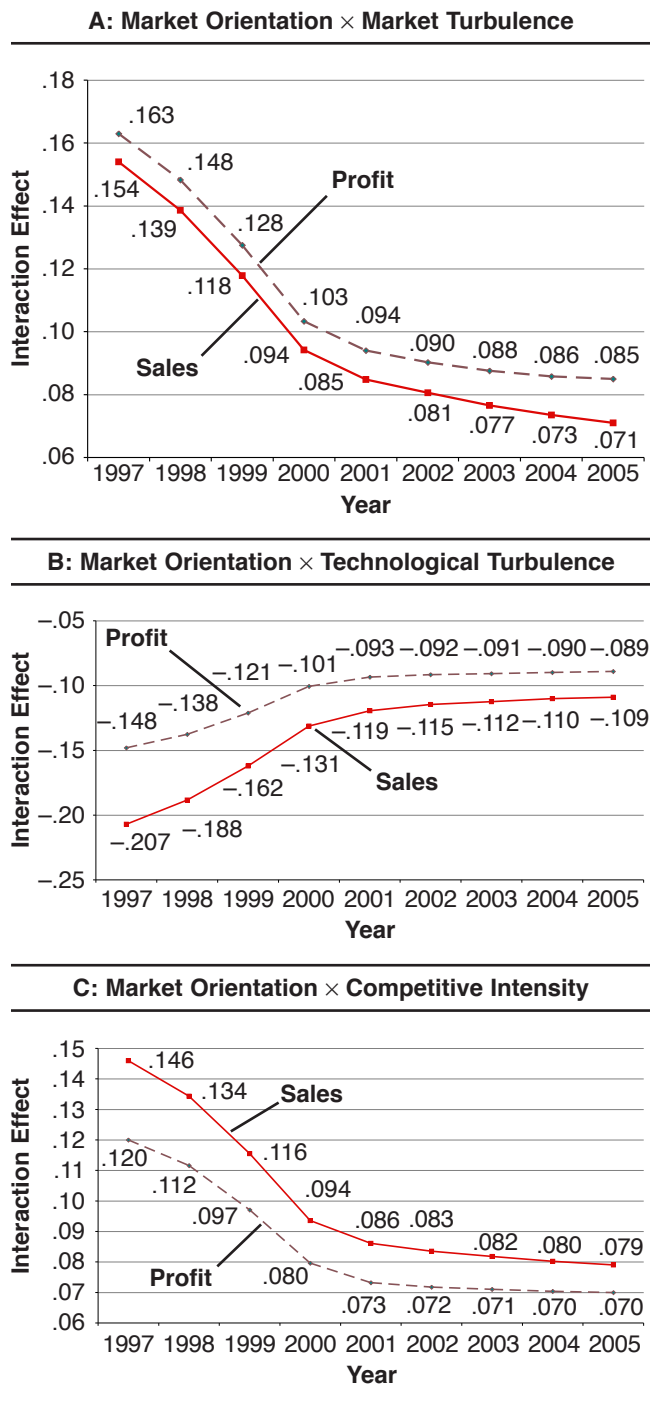
remaining hypotheses in this study. For example, the interaction effect between market orientation and market turbulence remains positive over the study period. However, the magnitude of the coefficient for this interaction effect in 1997 is greater than in subsequent years. Similar to a market orientation variable, we employ a time-varying parameter model and show that the effect of time (as captured by  $\ln[\text{time}]$ ) is significant for sales ( $-.042, p < .05$ ) and profit ( $-.040, p < .05$ ). These time-varying interaction term coefficients for market turbulence support  $H_{2a}$  and  $H_{2b}$ .

The estimated coefficient of the interaction terms between market orientation and technological turbulence in 1997 on sales is negative and significant ( $\alpha_{71} = -.207, p < .01$ ), and the corresponding effect on profit in time  $t$  is also negative and significant ( $\alpha_{72} = -.148, p < .01$ ). This implies that the positive influence of market orientation on business performance in both the short and the long run is diminished in markets with high technological turbulence. Similar to market turbulence, the negative moderating effect of technological turbulence is also greater (after we consider the 95% confidence intervals of the parameter estimates) in 1997 than in future periods. When we tested for the time-varying effect of this interaction, we find that the coefficient for time (as captured by  $\ln[\text{time}]$ ) is significant for sales ( $.050, p < .05$ ) and profit ( $.031, p < .05$ ). These time-varying interaction term coefficients for technological turbulence support  $H_{3a}$  and  $H_{3b}$ .

The estimated coefficient of the interaction term between market orientation and competitive intensity in 1997 on sales in time  $t$  is positive and significant ( $\alpha_{81} = .146, p < .01$ ), and the corresponding effect on profit in time  $t$  is also positive and significant ( $\alpha_{82} = .12, p < .01$ ). This implies that the positive influence of market orientation on business performance in both the short and the long run is enhanced in markets with high competitive intensity. The moderating effect of competitive intensity in 1997 is greater (after we consider the 95% confidence intervals of the parameter estimates) than the corresponding effect in subsequent years. Again, we fit a time-varying parameter model for studying the effect of this interaction over time and find that the effect of time (as captured by  $\ln[\text{time}]$ ) is significant for sales ( $-.034, p < .05$ ) and profit ( $-.026, p < .05$ ). These time-varying interaction term coefficients for competitive intensity support  $H_{4a}$  and  $H_{4b}$ . We show the diminishing effects of the interaction effects between market orientation and the moderators on sales and profit over time in Figure 4, Panels A–C.

The coefficients of the industry-specific control variable, industry growth rate, on sales ( $\zeta_{11} = .185, p < .01$ ) and profit ( $\zeta_{12} = .208, p < .01$ ) are both positive and significant. The industry category dummies are also positive and significant for both sales ( $\zeta_{41\text{services}} = .147, p < .01$ ;  $\zeta_{51\text{retailing and distribution}} = .121, p < .01$ ; and  $\zeta_{61\text{manufacturing}} = .107, p < .01$ ) and profit ( $\zeta_{42\text{services}} = .131, p < .01$ ;  $\zeta_{52\text{retailing and distribution}} = .128, p < .01$ ; and  $\zeta_{62\text{manufacturing}} = .093, p < .01$ ). These results reveal that industry-specific factors influence business performance. Finally, the coefficients for the firm-specific control variable, firm size, on sales ( $\zeta_{21} = .217, p < .01$ ) and profit ( $\zeta_{22} = .226, p < .01$ ) are positive and significant, thus accommodating for firm-specific heterogeneity.

**FIGURE 4**  
**Diminishing Interaction Effects Between Market Orientation and Moderators on Sales and Profit**



The coefficient for the economic variable, GDP (gross domestic product), is positive and significant ( $\zeta_{31}$  and  $\zeta_{32}$  are .091 and .072 for sales and profit, respectively). We now discuss the implications of our findings in terms of relevance to the marketing literature and marketing practice.

## Discussion and Implications

To our knowledge, this is one of the first studies to examine the evolutionary nature of a market orientation–business

performance relationship. Using panel data across a large number of industries, we evaluate both the short- and the long-term effects. The nine-year period covered by our panel data enables us to show that more companies became market oriented during this time and that market orientation had a positive influence on sales and profit in both the short and the long run (see Figure 2). More important, we show that though adopting a market orientation early was a source of unique competitive advantage for a firm (a success provider), it has now become a cost of doing business (a failure preventer) (Varadarajan 1985).

### Environmental Moderators

Can a market orientation help organizations navigate through turbulent times? The results of our study suggest that it can. Along with the demonstrated diminishing effects of market orientation on sales and profit, we found that environmental turbulence moderates the relationship between market orientation and performance in both the short and the long run. Market turbulence strengthens the relationship between market orientation and sales and the relationship between market orientation and profit (in both the short and the long run), but this moderating effect diminishes over time. This finding is in contrast with Kirca, Jayachandran, and Bearden's (2005) conclusion that market/environmental turbulence is not a significant moderator of the relationship between market orientation and performance.

Technological turbulence weakens the relationship between market orientation and sales and between market orientation and profit (in both the short and the long run), but this moderating effect diminishes over time. Competitive intensity strengthens the effect of market orientation on business performance in both the short and the long run. In contrast with prior research (Jaworski and Kohli 1993; Slater and Narver 1994), the results reveal that competitive intensity is a moderator in a market orientation–business performance relationship. The gains from better customer and competitive research intelligence among market-oriented firms in the presence of market turbulence and competitive intensity take time to improve business performance, and as more firms become market oriented, a competitive advantage can diminish under conditions of high technological turbulence. Yet the positive influence of market orientation on business performance is enhanced under high competitive intensity. Therefore, the failure to detect the effect of environmental moderators in prior research could be attributed to the omission of lagged effects.

### First (Early) Adopters of Market Orientation

The competitive advantage from having a market orientation is greater for the first (early) adopters in the industry. Firms that are the first or early to develop a market orientation gain more in sales and profit than firms that are late to develop a market orientation. Furthermore, firms that adopt a market orientation also realize the benefit of a bonus in the form of a sales and profit lift due to a carryover effect that lasts up to three periods. Our study provides an important contribution to the literature on first-mover advantage. The results reveal that early adopters with regard to imple-

menting a market orientation strategy also enjoy similar benefits as first movers in terms of the introduction of a product or service innovation (Kerin, Varadarajan, and Peterson 1992). In other words, early adopters also enjoy competitive advantage in terms of the outputs (e.g., product or service innovation); however, this benefit is evident for only three years. We find that as competition also becomes market oriented, early entrants fail to enhance their competitive advantage from having a market orientation because the late adopters learn from the early adopters. The diminishing effect lasting up to three periods provides another managerially relevant interpretation.

Finally, comparing the main effect of market orientation on business performance, we find that market orientation has a greater influence on profit than sales in both the short and the long run. The carryover effect of market orientation on profit is greater than the effect of market orientation on sales. This implies that having a market orientation makes organizations focus more on retention than acquisition, and therefore profits increase much more than sales.

### **Marketing Practice**

The results show that the adoption of a market orientation is important in generating both sales and profit. Given that the benefits of market orientation take time to become fully realized, the importance of top management both emphasizing and supporting a market-oriented culture is paramount (see Gebhardt, Carpenter, and Sherry 2006). Furthermore, because more companies have become market oriented during the past 15 years, being market oriented has become more of a failure preventer than a success producer (Varadarajan 1985). Indeed, it is the cost of doing business rather than a distinct characteristic and a specific source of SCA. Companies must continue to raise the bar and not just maintain a certain level of market orientation to be successful; that is, to have a unique advantage, companies must continuously identify new dimensions of this construct to distinguish themselves. An example of this is the number of companies that have incorporated a customer orientation (focus) into their organizations, thus adding to the dimensionality of market orientation. As the United States continues to move from a product- to a service-dominated economy, companies will need to identify service-related dimensions of market orientation.

Furthermore, given the globalization of brands and services, companies need to investigate how to incorporate multicultural dimensions into their general market orientation philosophy. Another fruitful extension of a market orientation strategy would be augmenting the general strategic emphasis on customers, with a rigorous focus on profitable individual customer relationships and interactions, as interaction orientation suggests (Ramani and Kumar 2008). Moreover, recent work on internal marketing has provided some avenues for improvement in market orientation by examining the extent to which a firm's employee base holistically embraces its market orientation. We expect that these firms would gain a differential advantage over firms that do not have high conformity among their employees.

Regarding environmental turbulence, our results reveal that when a firm operates in a business environment of con-

stant flux, a market orientation is especially critical for staying in tune with customers' preferences. In other words, real-time market information generation and dissemination (e.g., customer relationship management) is necessary. However, with rapidly changing technology, the performance benefits of market orientation are more difficult to capture and keep.

With respect to market orientation under highly competitive conditions, the results show that it is possible for market-oriented firms to achieve and protect gains in sales and profitability. Perhaps a market orientation can facilitate proactive and reactive tactics, and all else being equal, firms can transform sales gains from their market orientation into higher profit over time. The lagged dependent variable enables us to assess the carryover effect of market orientation. We obtain the carryover effects of  $\alpha_{2k}$  by sequential substitution of the coefficient of the lagged dependent variable (i.e.,  $\alpha_{1k}$ ). Thus, we observe that the effect of market orientation in a certain year has an influence on business performance for about three years, albeit at a diminishing rate. Based on the magnitude of the respective coefficients, the carryover effect of market orientation on profit is marginally greater than the carryover effect of market orientation on sales. However, the elasticity at each level of market orientation with respect to sales and profit must be computed to assess whether market orientation has a more pronounced effect on sales or profit.

In summary, this study has direct theoretical and managerial implications related to previous research in this area. Hunt and Morgan (1995) propose that organizations need to evaluate their relative performance continuously and use or acquire resources/skills to attain a comparative advantage. Market orientation should be viewed as a resource for navigating through turbulent times. In particular, we find that the benefits of market orientation are enhanced over time under intense competitive conditions, which lends support to Slater and Narver's (1994) encouragement to build and keep a market orientation.

### **Limitations and Directions for Further Research**

This study has limitations that can provide opportunities for further research. We conclude that though market orientation has a diminishing effect on business performance, firms cannot afford to abandon it because it has become the cost of competing. We do not assess the effectiveness of other business orientations, such as interaction orientation (Ramani and Kumar 2008), in improving business performance when the competition is market oriented. Our longitudinal survey design enables us to evaluate the long-term and diminishing effects of adopting market orientation. However, because of cost restrictions and managers' time requirements, we were able to conduct our survey only three times during the nine years. Annual surveys that track a market orientation of the firm would allow researchers to assess whether market orientation's effect on business performance stops when at least one or more competitors are market oriented. We asked managers to assess their firms' market orientation. It is possible that customers' assessments of a firm's market orientation are more accurate. Further

research could assess the value of using customer assessments of market orientation to predict business performance.

In this section, we address a few issues beyond the scope of this study that we leave for future investigation. For example, Pelham's (1997) findings suggest that a market orientation would be a less significant determinant of performance in markets in which cost cutting and economies of scale are the dominant sources of SCA. We did not examine these effects. However, this does not diminish our study's contributions relative to the influence of time on a market orientation–performance relationship. Further research should incorporate managers' enduring cost-cutting strategies into the overall framework. In addition, continuous investments in market orientation are warranted, particularly in industries characterized as highly turbulent. Extending this study to a more recent time frame would also be worthwhile to capture the unprecedented turbulence occurring, particularly in financial markets.

The market orientation literature would also benefit from incorporating customers' value emphasis (price versus quality) on the relationship between market orientation and performance. This could indicate the extent to which managers embrace cost-cutting methods. Further research should develop theories that provide guidance on market conditions that are conducive to creating new markets rather than serving existing markets better (Jaworski, Kohli, and Sahay 2000) and the resources that would enable organizations to do so.

In addition, prior research has found statistical support for both the customer (Slater and Narver 1994) and the employee (Siguaw, Brown, and Widing 1994) in determining the consequences of market orientation in the short run. Therefore, further research should include a more exhaustive list of performance measures, such as customer loyalty, satisfaction, and innovative capability, to examine the extent to which a market-oriented strategy affects these measures. Such a study would be of immense theoretical and managerial relevance because the performance measures that provide shareholder value are constantly changing.

A constant barrage of new customer relationship management systems tempts managers to continuously update their technology, which could negatively affect profit. Yet technological innovations could be classified as product or process innovations. Product innovations are primarily geared toward expanding into new markets, introducing

new products, and attaining higher levels of customer loyalty; process innovations are primarily geared toward obtaining cost efficiencies. Intuitively, we would expect the performance benefits associated with being market oriented to diminish more under process innovation than under product innovation. Thus, further research could address the advantages and disadvantages of technological innovation on performance under varying conditions.

The coefficients we report in this study indicate that the effect of market orientation on profitability is greater than market orientation's effect on sales in the long run. However, given that sales and profit are different dependent variables, the elasticity of market orientation on sales and profit must be computed to determine which has more pronounced effect. Depending on the level of market orientation, the respective elasticities can vary. Literature on customer satisfaction and lifetime value (Bolton 1998; Reinartz and Kumar 2000) also suggests that an organization gains in customer equity by satisfying and retaining the right customers for longer durations. The marketing discipline could benefit from research relating market orientation directly to lifetime value precepts.

Finally, embracing a market orientation is one way to respond to competitive intensity in the marketplace. Strategic market management purports that managers constantly scan the environment and develop proactive strategies to improve performance in competitive situations. However, in highly competitive situations, managers may depend more on a "proactive" market orientation than on a "reactive" market orientation (Narver, Slater, and MacLachlan 2004). Thus, ethnographic studies focusing on managers' strategic approaches in terms of proactive versus reactive market-oriented tactics could expand existing knowledge of market orientation.

In the absence of market turbulence and competitive intensity, market orientation has a diminishing effect on sales and profit. However, markets are becoming more competitive. Thus, this research offers some encouraging news in a turbulent business environment: That is, managers should "stay the course" in terms of their market orientation strategy. Furthermore, volatile market conditions can actually strengthen the influence of market orientation on business performance. Therefore, we advise organizations not to abandon their market-oriented strategy because it is the cost of competing, particularly in these turbulent times.

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