

# The Impact of Market Orientation, Product Advantage, and Launch Proficiency on New Product Performance and Organizational Performance

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*Some scholars have suggested recently that a market-oriented culture leads to superior performance, at least in part, because of the new products that are developed and are brought to market. Others have reinforced this wisdom by revealing that a market-oriented culture enhances organizational innovativeness and new product success, both of which in turn improve organizational performance. These scholars do not reveal, however, through which new product development (NPD) activities a market-oriented culture is converted into superior performance.*

*To determine how critical NPD activities are for a market-oriented firm to achieve superior performance, our study uses data from 126 firms in The Netherlands to investigate the structural relationships among market orientation, new product advantage, the proficiency in new product launch activities, new product performance, and organizational performance. We focus on product advantage—because product benefits typically form the compelling reasons for customers to buy the new product—and on the launch proficiency—as the launch stage represents the most costly and risky part of the NPD process. Focusing on the launch stage also is relevant because it is only during the launch that it will become evident whether a market orientation has crystallized into a superior product in the eyes of the customer.*

*The results provide evidence that a market orientation is related positively to product advantage and to the proficiency in market testing, launch budgeting, launch strategy, and launch tactics. Product advantage and the proficiency in launch tactics are related positively to new product performance, which itself is related positively to organizational performance. Market orientation has no direct relationship to new product performance and to organizational performance.*

*An important implication of our study is that the impact of a market orientation on organizational performance is channeled through the effects of a market orientation on product advantage and launch proficiency; subsequently through the effects of product advantage and the proficiency in launch tactics on new product performance; and finally through the effect of new product performance on organizational performance. These channeling effects are much more subtle and complex than the direct relationship of market orientation on organizational performance previously assumed. Another implication of our study is that the impact of a market orientation on performance occurs through the launch activities rather than being pervasive to all organizational processes and activities. A reason for this finding may be that NPD is the one element of the marketing mix that*

*predominantly is the responsibility of the firm, whereas promotion and distribution often are in control of organizations outside the firm (e.g., advertising agencies, major retailers) and whereas the channel or the market often dictates the price. Both implications provide ample opportunities for further research on market orientation and NPD.*

## Introduction

**M**arket orientation is a business culture that (1) places the highest priority on the profitable creation and maintenance of superior value for customers while considering the interest of other stakeholders; and (2) provides norms for behaviors regarding the organizational generation of, dissemination of, and responsiveness to market information (Deshpandé et al. 1993; Kohli and Jaworski 1990; Narver and Slater 1990, 1998). Moreover, Hunt and Morgan (1995) state that a market-oriented culture produces a sustainable competitive advantage and, thus, superior long-run organizational performance. In line with this reasoning researchers extensively have pursued an

understanding of the link between market orientation and performance (Homburg and Pflesser 2000). Despite some discordant findings, these studies have demonstrated that, depending upon environmental conditions and firm factors, market orientation is related positively to new product performance (e.g., Baker and Sinkula 1999a; Pelham and Wilson 1996; Slater and Narver 1994a) and organizational performance (e.g., Jaworski and Kohli 1993; Narver and Slater 1990; Pelham 1999). Not surprisingly, the interest in these relationships has remained ostensibly steadfast for its strategic importance.

Recently, Gatignon and Xuereb (1997) suggested that a market-oriented culture leads to superior performance, at least in part, because of the new products that are developed and are brought to market. They maintain that having a market-oriented culture may lead to general benefits of the firm's marketing activities and new product development (NPD) activities but that the ability to develop and to market new products, which present the characteristics necessary to be successful, may be critical. Han et al. (1998) and Baker and Sinkula (1999b) have reinforced this wisdom by revealing that a market-oriented culture enhances organizational innovativeness and new product success, both of which in turn improve organizational performance. These studies do not reveal, however, through which NPD activities a market-oriented culture is converted into superior performance.

To determine how critical NPD is for a market-oriented firm to achieve superior performance, our study investigates the structural linkages among market orientation, product advantage, new product launch proficiency, new product performance, and organizational performance. The focus here is on new product advantage, because these product benefits typically form the compelling reasons for customers to buy the new product, and on the launch proficiency, because the launch stage represents the most costly and risky part of the NPD process (Kotler 2003). Focusing on the launch stage also is relevant because it is only during the launch that it will become evident whether a market orientation has

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crystallized into a superior product in the eyes of the customer.

The remainder of this article is structured as follows. First, the literature on market orientation and NPD is reviewed. Then, the conceptual framework and the hypothesized relationships are presented. Next, the research methodology is explained, and the findings are reviewed from a sample of 126 firms in The Netherlands. Finally, managerial implications, limitations, and suggestions for further research are explored.

## Market Orientation and NPD

From a strategic viewpoint, a market orientation remains incomplete if it is not understood through which activities a market-oriented culture is transformed into superior value for customers (Han et al. 1998). Unfortunately, these activities have received only scant scholarly consideration. A noteworthy exception is Slater and Narver's (1994b) conceptual study in which they identify NPD as one of the core capabilities that converts a market-oriented culture into superior organizational performance. Their proposition is consistent with literature assuming that culture gives rise to specific organizational structures and processes (Ruekert et al. 1985). These structures and processes in turn affect the nature and effectiveness of marketing activities and outcomes (Moorman 1995). Slater and Narver (1994b) focused on NPD for three reasons. First, NPD has emerged as one of the critical strategic concerns for firms in the past decade, as is evidenced by reports of returns on new products accounting for 50 percent or more of corporate revenues (Han et al. 1998). Second, prior research has indicated that NPD activities and outcomes are influenced strongly by the firm's capability to generate, to disseminate, and to use market information (Griffin and Hauser 1992; Hutt et al. 1988). The rationale is that a market-oriented culture and the associated information processing behaviors reduce many risks associated with NPD. Third, prior research reveals that market orientation is related positively to new product performance (Pelham and Wilson 1996; Slater and Narver 1994a).

Presently, the empirical support for the role of NPD in the relationship between a market orientation and organizational performance is only piecemeal. For example, Baker and Sinkula (1999b) reveal that a market-oriented culture leads to new product success,

which in turn leads to superior organizational performance. Likewise, Han et al. (1998) show that market orientation enhances both technical and administrative innovations, which in turn improve organizational performance. Although both studies provide support that a market-oriented culture is transformed into superior organizational performance through NPD, they do not reveal through which NPD activities this culture is converted into superior performance.

Atuahene-Gima (1995) sheds some light on the role of NPD activities by demonstrating that a market orientation positively influences the proficiency in launch activities. This result suggests that a market-oriented culture provides a unifying focus for the proficiency in some specific NPD activities within the organization to create superior value for customers. Gatignon and Xuereb (1997) elaborate on this view by showing that the strategic orientation of the firm, which includes market orientation, leads to superior new product performance because of the characteristics (i.e., product advantage, newness, and cost) of the new product brought to market.

Although fragmented and inconclusive, the empirical results provided by Atuahene-Gima (1995), Baker and Sinkula (1999b), Gatignon and Xuereb (1997), and Han et al. (1998) suggest that the relationship between market orientation and organizational performance depends, at least partly, on the extent to which a market-oriented culture affects new product characteristics, the proficiency in new product launch activities, and new product performance.

## Conceptual Framework and Hypotheses

The conceptual framework, shown in Figure 1, specifies the relationships across the building blocks in this study: market orientation, new product advantage, the proficiency in launch activities (market testing, launch budgeting, launch strategy, and launch tactics), new product performance, and organizational performance. It is proposed here that a market-oriented culture is related positively to product advantage and launch proficiency. It also is posited that the ability of market-oriented firms to develop and to launch products that fit customer needs leads to superior new product performance. Superior new product performance subsequently affects organizational performance. A market-oriented culture, however, also can influence the proficiency in other

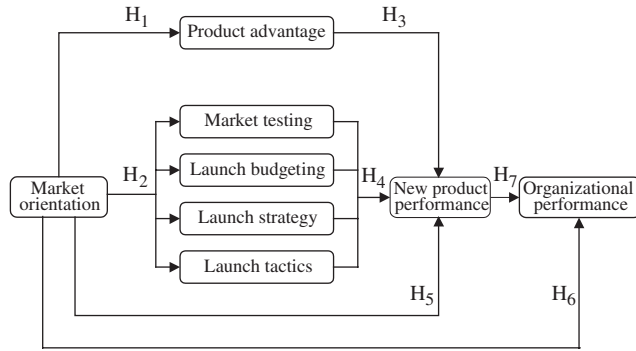


Figure 1. Conceptual Framework

marketing activities (i.e., pricing, distribution, and promotion) and other NPD activities (i.e., predevelopment and development) besides the launch activities. Therefore, market orientation also is hypothesized to have a direct influence on new product performance and organizational performance. Next, the hypotheses are developed.

#### *The Relationship between Market Orientation and Product Advantage*

Product advantage refers to the benefits that customers get from the new product (Calantone and di Benedetto 1988). The influence of a market-oriented culture on product advantage is a subject of debate (Lukas and Ferrell 2000). Several authors have suggested that a strong market-oriented culture may lead to imitations and to marginally new products (Bennett and Cooper 1981), echoing Tauber's (1974) contention that a market orientation inherently is biased toward the development of "me-too" products. Others add that listening too closely to customers can constitute a barrier to commercializing new technology and can lead to less competitiveness (Christensen and Bower 1996). In contrast, there is strong conceptual and empirical evidence that a market-oriented culture enhances the creation of superior value for customers relative to competitors (Slater and Narver 1998, 1999). In addition, the empirical evidence that market orientation has a positive relationship with new product success (Baker and Sinkula 1999a; Pelham and Wilson 1996; Slater and Narver 1994a) acknowledges that market-oriented firms develop products with greater advantage over the competition because product advantage is the number-one factor affecting new product performance (Henard and Szymanski 2001). Finally, the

proposition that a market-oriented culture leads to greater customer satisfaction and repeat business also implicitly acknowledges that market-oriented firms develop products with greater advantage over competition (Atuahene-Gima 1996). Therefore, it is hypothesized that

*H1: The stronger the market orientation of the firm, the higher the product advantage.*

#### *The Relationship between Market Orientation and the Proficiency in Launch Activities*

A launch plan for a new product consists of those activities necessary to present a new product to its target market and to begin to generate income from sales of the new product (Kotler 2003). These activities have been referred to under the collective terms of launch strategy, market entry, product launch, introduction, or market launch (Hultink et al. 1998). Scholars who state that a market-oriented culture embodies values and beliefs that guide organizational activities enhancing performance implicitly acknowledge the influence of market orientation on the launch activities. For example, according to Deshpandé and Farley (1998), market orientation represents the set of cross-functional processes and activities directed at creating and satisfying customers through continuous needs-assessment. Similarly, Baker and Sinkula (1999a) assert that a market-oriented culture provides a unifying focus for the efforts and projects of individuals and departments in organizations, thereby leading to superior performance.

Atuahene-Gima (1995) provides some empirical support for the proposition that a market-oriented culture guides organizational activities by showing that a market-oriented culture positively influences the proficiency in the training of sales and frontline personnel, post-launch evaluation, and market testing. The marketing and NPD literatures, however, provide a more comprehensive list of launch activities (Hultink et al. 1998). We focus here on the proficiency in market testing, launch budgeting, launch strategy, and launch tactics that together cover the full breadth of the domain of launch activities (Kotler 2003).

Market testing relates to the activities required to test both the physical product and the launch tactics in the target market. Launch budgeting pertains to a budgeting task required to develop, to implement, and to monitor launch strategy and tactics. The

launch strategy relates to the tasks required for answering the what, where, when, and why to launch questions (e.g., segmenting, targeting, and positioning). Launch tactics involve the tasks related to the marketing mix decisions (i.e., product tactics, distribution, pricing, and promotion) on how to launch the new product. Based on conceptual evidence and on Atuahene-Gima's (1995) empirical findings, it is posited here that market orientation positively influences the proficiency in the launch activities:

*H2: The stronger the market orientation of the firm, the greater the proficiency in (1) market testing, (2) launch budgeting, (3) launch strategy, and (4) launch tactics.*

#### *The Relationship between New Product Advantage and New Product Performance*

Rogers (1983) proposed that product advantage, compatibility, trialability, and observability are related positively to adoption, whereas complexity and perceived risk are related negatively to adoption (Gatignon and Robertson 1985). However, product advantage consistently appears as the most important product characteristic in explaining the adoption and success of the new product (Henard and Szymanski 2001; Montoya-Weiss and Calantone 1994). Therefore, it is hypothesized that

*H3: The higher the product advantage, the better the new product performance.*

#### *The Relationship between Launch Proficiency and New Product Performance*

Past research has shown that the proficiency in NPD activities is a fundamental requirement for new product performance. For example, Maidique and Zirger (1984) conclude that new product success is more likely when "the developing organization is proficient in marketing and commits a significant amount of its resources to selling and promoting the product" (p. 201). Song and Parry (1996) link measures of new product success to proficiencies in market research and launch. Cooper (1979) reports relationships between new product success and measures of development proficiency, which includes measures of test marketing and launch proficiency. A follow-up study by Cooper and Kleinschmidt (1987) reports similar results, as do later studies of

Australian (Dwyer and Mellor 1991), Chinese (Song and Parry 1994), and Japanese (Song and Parry 1997) firms. More evidence for the positive impact of launch proficiency on new product performance has been provided by, for example, Biggadike (1979), Green et al. (1995), and Hultink et al. (1998). Together these findings suggest that the proficiency in launch activities is a fundamental requirement for new product success. Thus, we hypothesize that

*H4: The greater the proficiency in (1) market testing, (2) launch budgeting, (3) launch strategy, and (4) launch tactics, the better the new product performance.*

#### *The Relationship between Market Orientation and New Product Performance*

Baker and Sinkula (1999a), Pelham and Wilson (1996), and Slater and Narver (1994a) have shown that a market orientation positively affects new product performance. The rationale for market orientation being positively related to new product performance is rooted in the belief that a market-oriented culture embodies organizational values and beliefs that guide activities, including NPD activities, that lead to superior organizational performance. For example, Slater and Narver (1994a) note that market orientation creates the necessary behaviors for creating value for buyers and thus for creating continuous superior performance. Likewise, Ruekert (1992) asserts that a market orientation provides a unifying focus for the efforts and projects of individuals and departments in organizations, thereby leading to superior performance. Thus, it is hypothesized that

*H5: The stronger the market orientation of the firm, the better the new product performance.*

#### *The Relationship between Market Orientation and Organizational Performance*

Organizational performance refers to the firm's market and financial performance, which is positively related to the firm's economic value (Slater and Narver 1994a). We view organizational performance in competitive terms (i.e., compared to relevant competitors), because a market-oriented culture has been posited as one of a firm's competitive capabilities and sources of advantage (Hunt and Morgan 1995). The literature argues that a market-oriented culture

provides a unifying focus of organizational efforts in the delivery of value to customers while also providing a comparative impetus with competitors' activities (Kohli and Jaworski 1990). Therefore, a market-oriented firm is more likely to achieve high levels of customer satisfaction; to keep existing customers loyal; to attract new customers; and subsequently to attain the desired level of growth, market share, and hence of organizational performance (Homburg and Pflesser 2000). Thus, it is hypothesized that

*H6: The stronger the market orientation of the firm, the better the organizational performance.*

### *The Relationship between New Product Performance and Organizational Performance*

An important part of the NPD literature has shown that new product performance is related positively to organizational performance (Griffin and Page 1996; Hultink et al. 1998; Montoya-Weiss and Calantone 1994). The rationale for new product performance becoming increasingly important for organizational performance is that firms confront increased levels of competition, rapidly changing market environments, higher rates of technical obsolescence, and shorter product life cycles (Griffin 1997). In these conditions, new products serve to accommodate the uncertainties a firm faces in its entrepreneurial environment. Empirical research also reveals the importance of new product performance for organizational performance. For example, Griffin (1997) reports that best-practice firms realize 49 percent of their sales from products developed and launched in the last five years and that new product performance accounts for one-fourth of the variability in organizational performance. Similarly, Terwiesh et al. (1998) report that new product performance explains, depending upon the market context, between 30 and 70 percent of organizational profitability variance. Accordingly, it is hypothesized that

*H8: The better the new product performance, the better the organizational performance.*

## **Methodology**

### *Sample and Data Collection*

The sample consisted of 475 Dutch firms with independent research and development (R&D), pro-

duction, and marketing/sales departments in the primary metal, fabricated metal, machinery equipment, electrical equipment, transportation equipment, and measuring instruments industries [Standard Industrial Codes (SIC) 33-38]. Through a telephone presurvey, 315 firms were identified. To be eligible, firms had to meet two criteria. First, they must have had a new product in the market for more than 12 months to ensure that they had sufficient data on the launch process and on the resulting performance data. We specifically targeted products that were representative of the firm's product development program. A seven-point rating scale (1=not very representative and 7=very representative) measured the representativeness of the new product for the firm's NPD program. The mean response was 5.10 (s.d.=1.44), thus showing the representativeness of the new product selected. Second, respondents were asked to rate themselves on their knowledgeability to make sure the appropriate respondents were interviewed.

A total of 211 (67.0 percent) knowledgeable informants willing to cooperate with the research project received a personalized letter explaining the purpose of the study, a questionnaire, and preaddressed, postage-paid envelopes. Nonrespondents received a reminder letter and a second questionnaire. These efforts yielded 126 responses, for a final useable response rate of 40.0 percent (59.7 percent of those who received a questionnaire). A routine check for respondent bias and industry bias indicated no significant differences in the mean responses on any construct across respondents with different functional backgrounds and across firms from different industries. We used Armstrong and Overton's (1977) time-trend extrapolation procedure to test for nonresponse bias. In comparing early (first quartile) and late (fourth quartile) respondents, no significant differences emerged in the mean responses on any of the constructs.

Together these results suggest that respondent bias, industry bias, and nonresponse bias were not a major problem. Table 1 shows the sample characteristics.

### *Measure Development and Pretesting*

A pool of items was generated for measuring each of the constructs using literature search and interviews with academics and practitioners. Pretests of these items occurred in two phases: (1) face-to-face

**Table 1. Sample Characteristics**

SIC Code	Number of Employees		Sales in Euros ( × 10 <sup>6</sup> )		Respondents		
33: Primary Metal	4.8%	26–50:	8.7%	<7.5:	17.5%	Marketing/Sales Manager	21.4%
34: Fabricated Metal	33.3%	51–75:	21.4%	7.5–12.5:	22.2%	R&D Manager	19.8%
35: Machinery Equipment	27.8%	76–100:	20.6%	12.5–25.0:	20.6%	Engineering	11.1%
36: Electrical Equipment	13.5%	101–150:	8.7%	25.0–37.5:	13.5%	General Manager	11.1%
37: Transportation	12.7%	151–200:	10.3%	37.5–50.0:	8.7%	New Business Manager	8.7%
38: Measuring Instruments	7.9%	201–300:	11.9%	50.0–75.0:	2.4%	Product Manager	7.1%
		> 301:	18.3%	75.0–100.0:	11.1%	Production Manager	4.0%
				> 100.0:	4.0%	Others:	16.7%

interviews with three academics; and (2) face-to-face interviews with five R&D managers and three marketing managers. At each stage, participants identified items that were confusing, tasks that were difficult to respond to, and any other problems they encountered. Problematic items were revised or were eliminated, and new ones were developed. By the end of the second phase of pretesting, the practitioners reported no concerns, and the questionnaire therefore was ready for final administration.

#### *Level of Analysis*

This study responds to a call by Drazin and Schoonhoven (1996) for cross-level research. These scholars argue that the strategic orientation of the firm, which includes market orientation, has a vital role to play in the NPD process, and that examining NPD from a cross-level perspective leads to an enhanced understanding of the factors leading to new product performance and hence to organizational performance. Therefore, market orientation and organizational performance are examined at the organizational level, and the proficiency in launch activities and new product performance are examined at the project level.

#### *Measures*

The constructs were measured using seven-point multi-item scales drawn from prior studies. Following Narver and Slater (1990), the authors support the fundamental conceptual position that market orientation is a second-order scale consisting of three subscales reflecting the behavioral components of customer orientation, competitor orientation, and interfunctional coordination. However, Narver and Slater's (1990) scale can be improved in terms of the balance in focus on stakeholders (i.e., customers and

competitors) and activities (i.e., generation of, dissemination of, and responsiveness to market intelligence). This is important because the absence of a balanced focus on stakeholders *and* activities prevents managerial interventions targeted to certain stakeholders, such as customers and competitors, that need to take place to create superior value for customers (Voss and Voss 2000). To measure market orientation, 22 items were used that were adapted from Langerak (2001), who modified Narver and Slater's (1990) scale to one that explicitly balances stakeholders and activities.

New product launch proficiency consists of four scales reflecting the proficiency in market testing, launch budgeting, launch strategy, and launch tactics. To measure these proficiencies, 20 items were used that were adapted from Biggadike (1979), Green et al. (1995), Hultink et al. (1998), Lambkin (1988), and Yoon and Lilien (1985). NPD performance is a second-order scale consisting of five subscales reflecting the dimensions of market level, financial, customer acceptance, product level, and timing measures of NPD success. The 17 items adapted from Griffin and Page (1993, 1996) measured new product performance.

Organizational performance was measured using six financial and market performance indicators adapted from Naman and Slevin (1993) and Slater and Narver (1994a) that have a positive effect on the firm's economic value. The performance variables were measured relative to those of the firm's relevant competitors (Hunt and Morgan 1995). Subjective measures were used because (1) objective measures were virtually impossible to obtain; (2) subjective measures have been shown to be correlated to objective measures of performance (Dess and Robinson 1984); and (3) subjective measures have been used in prior market orientation research (e.g., Jaworski and Kohli 1993; Narver and Slater 1990; Pelham and Wilson 1996). Product advantage was measured using

eight items from Atuahene-Gima (1995) and Song and Parry (1997). The Appendix contains the scale items.

### *Unidimensionality, Reliability, and Validity*

To obtain unidimensionality, the interitem correlations were calculated and item-to-total correlations were corrected for each item, taking one scale at a time. Items for which these correlations were not significant ( $p < .01$ ) were eliminated. Principal-axis factoring explored the unidimensionality of each purified scale using an eigenvalue of 1.0 and factor loadings of 0.25 as the cut-off points (Steenkamp and Van Trijp 1991). Computing reliability coefficients explored the reliability of each purified, unidimensional scale. When the coefficient alpha was smaller than .7, the item with the lowest item-to-total correlation was removed until meeting the .7 level.

The internal consistency and convergent validity of the scales was investigated by performing a series of confirmatory factor analyses at the first-order and second-order level. Values of .7 for composite reliability and .5 for average extracted variance were used as indicators of the internal consistency of the scales (Bagozzi and Yi 1988). The criterion of all factor loadings being significant ( $p < 0.05$ ) was used as indicator of convergent validity (Bagozzi et al. 1991). The results, summarized in Table 2, indicate that nearly all of the composite reliabilities exceed the .70 threshold level for acceptable composite reliability and that the majority of the values for average extracted variance exceed the threshold level of .50. Convergent validity is indicated by the fact that in each model the items load significantly on the

corresponding latent construct, with the first-order factors originating significantly from the second-order factor in the higher-order factor structures.

The discriminant validity was assessed across the subscales by estimating two-factor first-order models for each possible pair of subscales twice: once constraining the correlation between the latent variables to unity and once freeing the parameter. A chi-square difference test assessed whether the chi-square of the unconstrained model was significantly lower, providing evidence of discriminant validity. The critical value ( $\Delta\chi^2_{(1)} = 3.84$  at the 5-percent level) indicates that all pair-wise tests established discriminant validity. Discriminant validity across the higher-order scales was assessed by examining the 95-percent confidence intervals ( $\pm 1.96^*$  standard errors) around all pair-wise second-order factor correlations (Bagozzi et al. 1991). The results evidenced discriminant validity because none of the confidence intervals encompassed the value of 1.0. Table 2 shows the means, standard deviations, reliability coefficients, average extracted variances, and interconstruct correlations.

Together the results of the tests indicated a sufficient degree of unidimensionality, reliability, and validity. Based on this evidence, the constructs at the first-order level were formed by averaging the responses to each item in a particular scale. Averaging each of the first-order construct scores created the constructs at the second-order level.

## Results and Discussion

The hypotheses were tested using structural equation modeling by means of LISREL 8.3 (Jöreskog and

**Table 2. Means, Standard Deviations, Reliability Coefficients, Average Variance Extracted, and Interconstruct Correlations**

	# Items	Mean	SD	Range	1.	2.	3.	4.	5.	6.	7.	8.	AEV	CR
1. Market Orientation	15	5.23	0.66	3.33-6.87	<i>0.84</i>								0.40	n.a.
2. Product Advantage	6	5.39	0.93	2.17-6.83	<b>0.24</b>	<i>0.72</i>							0.42	0.73
3. Market Testing	4	4.50	1.54	1.33-6.50	<b>0.45</b>	<b>0.27</b>	<i>0.87</i>						0.63	0.89
4. Launch Budgeting	4	4.09	1.37	1.50-6.25	<b>0.22</b>	-0.12	<b>0.38</b>	<i>0.88</i>					0.59	0.89
5. Launch Strategy	3	4.96	1.27	1.33-7.00	<b>0.38</b>	0.06	<b>0.40</b>	<b>0.53</b>	<i>0.84</i>				0.66	0.85
6. Launch Tactics	4	4.56	1.21	2.00-6.68	<b>0.40</b>	0.07	<b>0.58</b>	<b>0.62</b>	<b>0.67</b>	<i>0.86</i>			0.56	0.87
7. New Product Performance	10	4.91	0.83	2.92-6.65	<b>0.34</b>	<b>0.17</b>	<b>0.31</b>	<b>0.41</b>	<b>0.51</b>	<b>0.58</b>	<i>0.88</i>		0.50	n.a.
8. Organizational Performance	6	4.93	0.99	2.20-6.67	<b>0.33</b>	-0.04	<b>0.20</b>	<b>0.32</b>	<b>0.39</b>	<b>0.44</b>	<b>0.66</b>	<i>0.88</i>	0.57	0.89

Notes: All entries are measured on a seven-point scale (see Appendix). Number of items remaining after purification. Reliability coefficients are shown in italics on the diagonal. Significant ( $p < .05$ ) correlations in bold. AEV: Average extracted variance. Composite reliabilities (CR) not available (n.a.) for second-order constructs.



**Table 3. Standardized Structural Coefficients and *t*-Values Associated with the Direct Estimates**

Path from	Path to:	Product Advantage	Market Testing	Launch Budgeting	Launch strategy	Launch Tactics	New Product Performance	Organizational Performance
Market Orientation		<b>0.23</b> ( <b>2.61</b> )	<b>0.46</b> ( <b>5.76</b> )	<b>0.26</b> ( <b>3.05</b> )	<b>0.39</b> ( <b>4.67</b> )	<b>0.39</b> ( <b>4.69</b> )	0.07 (0.86)	0.11 (1.49)
Product Advantage		–	–	–	–	–	<b>0.19</b> ( <b>2.05</b> )	–
Market Testing		–	–	<i>0.59</i> ( <i>3.23</i> )	<i>0.48</i> ( <i>2.90</i> )	<i>0.79</i> ( <i>5.00</i> )	–0.16 (–1.74)	–
Launch Budgeting		–	–	–	<i>0.84</i> ( <i>5.08</i> )	<i>0.92</i> ( <i>5.95</i> )	0.14 (1.48)	–
Launch Strategy		–	–	–	–	<i>0.78</i> ( <i>5.65</i> )	0.18 (1.92)	–
Launch Tactics		–	–	–	–	–	<b>0.42</b> ( <b>3.61</b> )	–
New Product Performance		–	–	–	–	–	–	<b>0.61</b> ( <b>8.57</b> )
$R^2$		0.05	0.21	0.07	0.15	0.15	0.41	0.42
Model fit: $\chi^2/df=2.42$ ; GFI=0.96; AGFI=0.88; NFI=0.95; CFI=0.97; IFI=0.97; RMSEA=0.07								

Notes: Significant ( $p < .05$ ) coefficients ( $t$ -values above 1.96) are shown in bold. Covariates among proficiency in launch activities are shown in italics.

Sörbom 1993). The constructs created for the estimation of the model were used to obtain a favorable ratio between the sample size and the number of parameters to be estimated. In estimating the model, the proficiency in the launch activities was allowed to covary freely. This modeling approach is consistent with the third-generation stage-gate approach of NPD (Cooper 1994), which was applied most frequently in the industries included in the sample.<sup>1</sup> The analysis resulted in a good fit to the data ( $\chi^2/df=2.42$ ; GFI=0.96; AGFI=0.88; NFI=0.95; CFI=0.97; IFI=0.97; RMSEA=0.07). Table 3 presents the structural standardized coefficients and  $t$ -values associated with the direct estimates used to test the hypotheses.

#### *The Relationship between Market Orientation and New Product Advantage*

The findings support H1, as market orientation has a positive significant ( $p < .05$ ) relationship with product advantage ( $b=.23$ ). This finding is consistent with studies suggesting that a market-oriented culture enhances the creation of products with greater advantage over competing products than their non-market-oriented counterparts (Kohli and Jaworski

1990; Narver and Slater 1990) and contradicts studies adapting Tauber's (1974) contention that a market-oriented culture is biased toward the development of me-too products that offer few, if any, advantages (Bennett and Cooper 1981).

#### *The Relationship between Market Orientation and the Proficiency in Launch Activities*

Consistent with H2(1), H2(2), H2(3), and H2(4), market orientation is related positively to the proficiency in market testing ( $b=.46$ ), launch budgeting ( $b=.26$ ), launch strategy ( $b=.39$ ), and launch tactics ( $b=.39$ ). Thus, the authors' findings support past research arguing that a market orientation is an antecedent of the efficiency and effectiveness in new product launch activities (Atuahene-Gima 1995).

#### *The Relationship between New Product Advantage and New Product Performance*

The findings support H3 as product advantage ( $b=.19$ ) has a positive and significant relationship with new product performance. This finding is consistent with past research that reveals the importance of product advantage to obtain higher new product performance (Henard and Szymanski 2001; Montoya-Weiss and Calantone 1994).

<sup>1</sup>A self-typing measure was used asking respondents to evaluate their NPD approach using three generic descriptions. The response frequencies were 21 (16.7%) for the first generation, 37 (29.4%) for the second generation, and 68 (54.0%) for the third-generation stage-gate model.

### *The Relationship between the Launch Proficiency and New Product Performance*

In support of H4(4), the proficiency in launch tactics ( $b=.42$ ) has a significant and positive relationship with new product performance. Market testing, launch budgeting, and launch strategy are not related significantly to new product performance, in contrast to H4(1), H4(2), and H4(3). As a result, these findings are consistent only partly with previous launch research arguing that proficiency in all the four launch activities is a direct antecedent of new product performance (e.g., Biggadike 1979; Green et al. 1995).

Although the proficiency in just one of four launch activities is related to new product performance, it should be noted that the proficiency in market testing significantly covaries with the proficiency in launch budgeting ( $\phi=0.59$ ), launch strategy ( $\phi=0.48$ ), and launch tactics ( $\phi=0.79$ ); that the proficiency in launch budgeting significantly covaries with the proficiency in launch strategy ( $\phi=0.84$ ) and launch tactics ( $\phi=0.92$ ); and that the proficiency in launch strategy significantly covaries with the proficiency in launch tactics ( $\phi=0.78$ ).

### *The Relationship between Market Orientation and New Product Performance*

Market orientation has, in contrast to H5, no significant direct relationship with new product performance. Thus, this finding is inconsistent with the authors' theoretical expectations and with empirical results as reported by, for instance, Baker and Sinkula (1999a), Pelham and Wilson (1996), and Slater and Narver (1994a). An explanation may be that this study, in contrast to previous studies, controls for the mediating role of product advantage and launch proficiency in the relationship between market orientation and new product performance. Without such controls the influence of a market-oriented culture on new product performance is likely to be overestimated (cf. Baker and Sinkula 1999b).<sup>2</sup>

<sup>2</sup>The findings do not suggest that a market-oriented culture is unimportant for new product performance, because it has a positive and significant ( $b=.23$ ) *indirect* association with new product performance. This effect is channeled through (1) the direct link between market orientation and the proficiency in launch tactics ( $b=.39$ ); (2) the direct association of launch tactics with new product performance ( $b=.42$ ); (3) the direct relationship of market orientation with product advantage ( $b=.23$ ); and (4) the direct linkage between product advantage and new product performance ( $b=.19$ ).

### *The Relationship between Market Orientation and Organizational Performance*

In contrast to H6, market orientation has no significant direct relationship with organizational performance. This finding therefore is inconsistent with previous research by, for example, Baker and Sinkula (1999a), Pelham (1999), and Slater and Narver (1994a). Again, an explanation may be that this study controls for the mediating role of product advantage, launch proficiency, and new product performance in the relationship between market orientation and organizational performance. Without these controls, the influence of a market-oriented culture on organizational performance is likely to be overestimated.<sup>3</sup>

### *The Relationship between New Product Performance and Organizational Performance*

The results provide support for H7, as new product performance has a significant positive relationship ( $b=.61$ ) with organizational performance. This finding is consistent with prior empirical research demonstrating the importance of new product performance for organizational performance (Griffin 1997; Terwiesh et al. 1998).

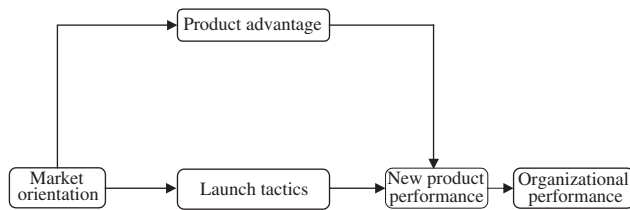
## **Management Implications**

The contribution of this study, summarized in Figure 2, is that it has shown that a market-oriented culture is converted into superior organizational performance only through higher product advantage, greater proficiency in launch tactics, and better new product performance. This finding has important implications. The discussion of these implications again is organized around the hypothesized relationships.

### *The Effect of Market Orientation on Product Advantage*

The finding that a market orientation has a positive association with product advantage and that product

<sup>3</sup>The findings do not suggest that a market-oriented culture is unimportant for organizational performance, because it has a positive and significant ( $b=.18$ ) *indirect* association with organizational performance. This effect is channeled through (1) the previously described associations of the proficiency in launch tactics and product advantage with new product performance; and (2) the direct association of new product performance with organizational performance ( $b=.61$ ).



**Figure 2. Empirically Derived Framework**

advantage has a positive link with new product performance demonstrates that a market-oriented culture is important for the development and launch of new products with the characteristics necessary to be successful. This implies that the strongly held beliefs in market-oriented firms about the creation of superior value for customers provides cohesiveness and focus on the part of employees within new product teams to uncover latent customer needs and to stimulate customers to suggest new product ideas. This way, a market-oriented culture ensures that new products help customers achieve their consumption or production objectives. Thus managers should do everything possible to build a market-oriented culture to ensure new product success. Some guidance on how to design a change program to become market-oriented is discussed later.

#### *The Effect of Market Orientation on the Proficiency in Launch Activities*

To managers, the finding that market orientation is associated positively with the proficiency in market testing, launch budgeting, launch strategy, and launch tactics reveals that a market-oriented culture embodies values and norms that provide consistency in the new product's launch activities. The implication is that management can influence the efficiency and effectiveness of the launch activities by investing in organizational programs that enhance the market orientation of the firm. This is important because the proficiency in launch tactics is associated positively with new product success.

Although the proficiency in market testing, launch budgeting, and launch strategy has no association with new product performance, managers must resist the temptation to pay less attention to these stages because these findings demonstrate that the proficiency in market testing, launch budgeting, launch strategy, and launch tactics are interrelated closely. This risk is negligible, however, because these results show that a market-oriented culture supports the proficiency in all four launch activities.

A program to create such a market-oriented culture to improve product advantage, launch proficiency, and new product success requires first and foremost implanting a pervasive cross-functional commitment to a set of values reflecting the philosophy that all decisions start with the customer, guided by a deep and shared understanding of customer's needs and behavior for the purpose of satisfying customers better than competitors. If employees hold these values about the importance of satisfying customers, these beliefs translate into norms that manifest itself in employees' behaviors in the NPD process. Thus, creating a market-oriented culture involves achieving two objectives. The first is to gain the organizational commitment to the core values, and the second is to develop the requisite resources incentives, skills, new systems and processes, and continuous learning to implement the core values. For an organization to achieve both objectives, top management must make an unequivocal commitment to putting customers first. This commitment is signaled by deeds and time spent.

#### *The Effects of Product Advantage on New Product Performance*

The finding that product advantage has a positive link with new product performance re-affirms that product advantage is a *conditio sine qua non*. This finding emphasizes the new product team's responsibility to define early on in the NPD process how the new product is advantageous over existing products. A market-oriented culture helps in creating such an advantage through actively scanning customers' wishes in the context of the competitive environment and then through analyzing, distributing, and using the resulting insights throughout the new product team to create value for customers. Management then should make sure that new product teams execute customer, competitor, and environmental analyses properly and provide information feedback to all parties concerned. Proper execution of the remaining phases in the NPD process remains crucial, however, in guaranteeing that the intended advantage materializes in the new product.

#### *The Effect of the Proficiency in Launch Activities on New Product Performance*

The finding that the proficiency in launch tactics is associated positively with new product performance

reveals that by improving the proficiency of the tactical launch activities firms greatly can increase the likelihood of new product success. The implication is that managers should pay particular attention to the how questions of the introduction mix. These questions address the marketing mix decisions in launching a new product: price, distribution, promotion, and the sales force. A market-oriented culture supports this managerial emphasis on the tactical launch decisions through the processes of gathering, interpreting, and using market information and the through necessity of functionally coordinated actions directed at gaining competitive advantage.

Although the proficiency in market testing, launch budgeting, and launch strategy has no association with new product performance, managers must resist the temptation to neglect these activities, because it is clear that the preceding activities of market testing, launch budgeting, and launch strategy have a clear and indispensable role to play. It is as if there is a cascading effect present here: Proficiency in market testing, launch budgeting, and launch strategy is a necessary condition for the final effect to occur, namely that of proficiency in launch tactics on new product performance. A market-oriented culture ensures that this final effect occurs, because these findings show that market orientation supports the proficiency in all four launch activities.

#### *The Effect of Market Orientation on New Product Performance*

These findings show that market orientation only influences new product performance through product advantage and the proficiency in launch tactics. This means that a market-oriented culture's influence on new product performance is restricted to the launch phase of the NPD process rather than also being pervasive to other phases (i.e., predevelopment and development) of the NPD process. An explanation might be that the launch phase is predominantly the responsibility of the marketing department, whereas the predevelopment and development phases are often in control of R&D and engineering. The marketing department usually holds stronger beliefs about the importance of a market-oriented culture than employees from the R&D and engineering departments. This way, a market-oriented culture may have a greater influence on new product success

through the proficiency in launch activities than through the proficiency in predevelopment and development. To increase further the likelihood of new product success through these phases as well, managers should ensure that programs that enhance a market orientation are implemented and are embedded across all phases of the NPD process and should make sure that market orientation is not solely the responsibility of the marketing department.

#### *The Effect of Market Orientation on Organizational Performance*

This study's findings also reveal that a market-oriented culture only affects organizational performance through product advantage, launch tactics proficiency, and new product performance. This implies that the influence of market orientation on organizational performance is restricted to the NPD process—in particular the launch phase—rather than being pervasive to all organizational processes and activities. An explanation might be that NPD is the one element of the marketing mix that is predominantly the responsibility of the firm, whereas promotion and distribution are often in control of organizations outside the firm (e.g., advertising agencies, retailers), and the channel or market often dictates the price (Baker and Sinkula 1999b). This finding therefore provides a caution to managers because they indicate that a market-oriented culture provides no cost efficiencies for other organizational processes and activities, besides NPD, and does not enhance the profitability, sales, and customer use of existing products.

#### *The Effect of New Product Performance on Organizational Performance*

Finally, the finding that new product performance has a positive effect on organizational performance reaffirms that firms cannot depend on their current product offerings only to meet their sales and profit objectives. However important, still many new products do not succeed in the market place (Hultink et al. 1998). This underlines the importance for managers to invest in creating a market-oriented culture to improve organizational performance through higher product advantage, greater proficiency in launch tactics, and better new product

performance. This shows that market orientation influences organizational performance in a much more subtle and complex, but manageable way, than has been presumed hitherto in the marketing and NPD literatures.

## Limitations and Further Research

This study is limited by several factors that should be addressed in future research. First, although data from firms in different industries were included, the hypothesized relationships should be tested with other independent samples. Second, the data on dependent and independent variables were collected on same-style scales using the key informant approach, which may have caused common method bias. Although this bias was not found using the Harman's one-factor test, future research should consider using different source data to ensure that common method bias is not a problem. Third, this study used a single new product that was representative of the firm's NPD program. Future research may consider using data on multiple new products embedded within the firms' NPD program. Such a methodology would also enable the use of multilevel modeling techniques to test the hypotheses. Fourth, only the launch phase of the NPD process was focused on in this study. Future research should consider not only including other phases (i.e., predevelopment and development) of the NPD process but also including other organizational processes that are likely to influence organizational performance. Fifth, although the authors' causal inferences are grounded strongly in an extant theoretical framework, the results of this cross-sectional study need to be confirmed by longitudinal studies. Finally, this study focused on the combined (versus individual) effects of the components of market orientation. Future studies could examine the effect of the individual components within a given magnitude of market orientation on product advantage, launch proficiency, new product performance, and organizational performance.

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## Appendix. Items

### Instructions:

Please use the following scale to indicate your extent of agreement about how well each of the following statements is an accurate description of your firm. Here: 1=strongly disagree, 7=strongly agree.

### Market Orientation

#### *Customer Orientation*

- Our firm gathers information about customers' needs.
- Our firm has insight into the buying process of customers.\*
- Our firm consults customers to improve the quality of service.
- Our firm handles customers' complaints well.
- Our firm involves customers in decisions that affect the relationship.
- Our firm looks for ways to offer customers more value.\*
- Our firm treats customers as partners.

#### *Competitor Orientation*

- Our firm knows whether competitors are open to complaints by customers.\*
- Our firm knows why customers continue buying from competitors.
- Our firm knows whether customers buying from competitors are satisfied.\*
- Our firm knows how competitors maintain relationships with customers.\*
- Our firm monitors customers buying from competitors.
- Our firm knows why customers switch to competitors.
- Our firm knows which products competitors offer customers.
- Our firm knows in what way competitors attract customers.

#### *Interfunctional Coordination*

- Our firm's departments coordinate their contacts with customers.
- Our firm's departments jointly satisfy customers' needs.
- Our firm's departments are collectively responsible for the relationship with customers.\*
- Our firm's departments jointly visit customers' plants.\*
- Our firm's departments take decisions that affect the relationship with customers collectively.
- Our firm's departments are collectively aware of the importance of the relationship with customers.
- Our firm's departments coordinate their activities aimed at customers.

### Instructions:

Please use the following scale to indicate your extent of agreement about how well each of the following statements is an accurate description of the new product that your firm most recently introduced in the market place. Here: 1=strongly disagree, 7=strongly agree.

### Product Advantage

- The new product offered unique benefits for customers.
- The new product provided higher quality than competing products.
- The new product solved problems for customers.\*
- The new product was highly innovative.
- The new product replaced inferior products.
- The new product was radically different from competitor products.
- The new product was superior to competing products.
- The new product offered solutions not possible with existing products.\*

**Instructions:**

The following activities are frequently part of a new product development process. During the development of the new product that you selected, how well was each of the following activities undertaken? Here: 1=done very poorly or mistakenly omitted altogether, 7=done excellently, and numbers between 1 and 7 indicate various degrees of proficiency.

**Proficiency in Market Testing**

- Selecting customers for testing market acceptance.
- Submitting the product to customers for in-use testing.
- Submitting the product to employees for in-use testing.\*
- Submitting the marketing program to customers for testing.
- Interpreting results from market testing program.

**Proficiency in Launch Budgeting**

- Determining advertising expenditures.
- Determining distribution expenditures.
- Determining launch budget.
- Allocating the launch budget.

**Proficiency in Launch Strategy**

- Segmenting the market.\*
- Selecting target customer groups.
- Selecting the new product's positioning.
- Determining launch objectives.\*
- Formulating the growth strategy.
- Establishing standards to judge new product's performance and market acceptance.\*

**Proficiency in Launch Tactics**

- Selecting channels of distribution.
- Determining the new product's price.
- Designing marketing communication mix.
- Designing product mix.
- Determining the role of sales force in launch.\*

**Instructions:**

Please use the following scale to indicate your extent of agreement about how well the new product you selected has performed on each of the performance indicators mentioned below. Here: 1=very poor and 7=very good.

**New Product Performance***Market-Level Measures*

- Unit volume goals.\*
- Met revenue goals.
- Met sales growth goals.
- Met market share goals.

*Financial Measures*

- ROI or IRR.
- Met profitability goals.
- Met contribution margin goals.\*
- Development costs.

*Customer Acceptance Measures*

- Customer acceptance.
- Customer satisfaction.
- Number of customers.\*
- Customer competitive advantage.\*

*Product-Level Measures*

- Met performance specifications\*
- Met quality specifications\*

*Timing Measures*

- Launch on time.
- Time-to-market.
- Break even time.\*

**Instructions:**

Please use the following scale to indicate your extent of agreement about how well your firm has performed over the last year relative to competitors on each of the performance indicators mentioned below. Here: 1=very much poorer and 7=very much better.

**Organizational Performance**

- Sales growth.
- Profitability.
- New product success.
- Sales share new products (i.e., products introduced in the last 5 years).
- Market share.
- ROI or IRR.