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The Influence of Business Strategy on New Product Activity: The Role of Market Orientation¹

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Abstract

In this paper we propose that business strategy influences new product activity both directly and indirectly via its influence on market orientation. Accordingly, we develop a framework linking firms' relative emphasis on cost leadership, product differentiation and focus strategies to firms' customer and competitor orientation as well as their new product development and introduction activity. We use this framework to develop a simultaneous equations model that is tested on survey data from 175 Dutch firms of varying size and across different industries in the manufacturing sector. The surprising findings are that a greater emphasis on a focus strategy results in a decreased emphasis on customer orientation and that competitor orientation has a negative direct influence on new product activity and an indirect positive effect via customer orientation. We discuss the implications of these findings for theory and practice.

Key words: strategy, market orientation, innovation, new product activity

1. Introduction

New product development and introduction are activities of vital importance to the growth and performance of firms. Despite considerable research into factors leading to successful new product activity (e.g., Henard and Szymanski 2001; Montoya-Weiss and Calantone 1994) as well as the consequences of such activity (e.g., Manu and Sriram 1996; Cardozo et al. 1993), little work has examined how business strategy influences the degree to which new product development and introduction is undertaken within the firm (Zahra 1993; Zahra and Covin 1993; Dröge and Calantone 1996, p. 559). The limited attention to the strategy-new product activity relationship is surprising given that new product activity is of strategic importance to firms and is therefore very likely to be influenced by the firm's strategic choices. For instance, a firm that primarily follows a strategy of product differentiation is more likely to be involved in new product development than a firm that follows a cost leadership strategy (Porter 1980). Likewise, prospector firms are likely to be more intensely involved in new product activity than firms that pursue other strategy types (Miles and Snow 1978). In this paper, therefore, we focus on how firms' relative emphasis on different business strategies influences the degree to which they engage in new product development and introduction. Further, we aim to open up the 'black box' between strategy and new product activity by studying the role of a potential mediator, namely market orientation.

Recent research suggests that the degree to which a firm is involved in new product activity depends on the extent and nature of its market orientation (Athuene-Gima 1995, 1996; Ottum and Moore 1997; Hurley and Hult 1998; Han, Kim and Srivastava 1998; Narver, Slater and MacLachlan 2000). Summarizing this view, Narver, Slater and MacLachlan (2000, p. 11) state that "a market orientation, whether reactive or proactive, is the foundation for a firm's innovation efforts". Market orientation has been defined as 'the organization-wide generation of market intelligence pertaining to customers, competitors, and those affecting

them, internal dissemination of the intelligence, and reaction as well as proactive responsiveness to the intelligence' (Jaworski and Kohli 1996, p. 131; see also Kohli and Jaworski 1990; Narver and Slater 1990). Thus, the extent to which firms are oriented towards customers or competitors is likely to influence the extent to which they respond to changes in the marketplace, in particular, the extent to which firms develop and introduce new products. Moreover, a firm's market orientation is in turn influenced by the business strategy that it pursues (Walker and Ruekert 1987; Slater and Narver 1994; Slater and Olson 2001). Therefore, the extent and nature of a firm's market orientation is likely to at least partially mediate the relationship between the firm's business strategy and its new product activity. For example, a firm that mainly follows a differentiation strategy could pursue new product activity in different ways depending on whether its focus is on customers (pro-active) or competitors (reactive). While a pro-active firm will identify and respond to long-term customer needs and thus be more customer oriented (Slater and Narver 1998; Narver, Slater and MacLachlan 2000), a reactive firm will identify and respond to competitors' actions and thus be more competitor oriented (Schnaars 1994).

Most of the large body of work on market orientation has not made the distinction between firms that are primarily customer oriented versus those that are primarily competitor oriented. Similar to Slater and Narver (1994), Han, Kim and Srivastava (1998), and Noble, Sinha and Kumar (2002), we treat the market orientation construct as multidimensional. We do so by studying the role of different dimensions of market orientation within the context of the business strategy of the firm—conceptualized as an antecedent of market orientation—and the actual implementation of this strategy through new product activity—conceptualized as a consequence of the type of market orientation displayed by the firm. This conceptualization extends Jaworski and Kohli's (1993) framework of antecedents and consequences of market orientation to a strategic context and is consistent with the

implementation literature on how strategic marketing choices are executed within the firm (Noble and Mokwa 1999).

By doing the above, this paper contributes to the extant literature in the following ways. First, it helps to further our understanding of how firms' strategic choices influence the degree to which new product development and introduction activities are undertaken within the firm. In contrast to the existing research on new product development which typically takes a prescriptive stance (a focus on the factors that determine successful from unsuccessful products), we adopt a descriptive approach that seeks to understand what strategic factors drive the extent to which firms engage in a specific, highly significant, market-oriented activity such as new product development. Our focus, therefore, is not on the new product development process as such (cf. Olson et al. 1995; Sethi 2000) but on its outcomes, specifically the extent to which new products are developed and launched by firms. Second, by examining the potential mediating role of market orientation we are able to better understand how business strategies drive actual implementation of cross-functional activities within the firm. As Slater and Narver (1998) point out "a business is market oriented only when the entire organization embraces the values implicit therein and when all business processes are directed at creating superior customer value" (p. 1003). This suggests that understanding the links between a firm's market orientation and its underlying business strategy is critical to understanding how an organization-wide commitment to markets can be created or, conversely, how this commitment may fail to arise in a firm. Third, as market orientation refers to the implementation of the marketing concept within the firm (Kohli and Jaworski 1990), our approach adds insight into the role of the marketing function within the firm and its contribution towards the implementation of the firm's strategic choices (Anderson 1982; Homburg, Workman and Krohmer 1999). Given that some have questioned the marketing function's contribution to new product development within the firm (e.g.,

Workman 1993) as well as the need for firms to be market oriented in general and customer oriented in particular (Christensen and Bower 1996), our approach speaks directly to an issue of considerable importance to business practice (see Slater and Narver 1998).

This paper is organized as follows. First, we discuss a conceptual framework linking firms' business strategy to the nature and extent of their market orientation and extent of new product activity. Next we draw on this framework to formulate hypotheses relevant to the objectives of our study. We then discuss the method we employ to test these hypotheses, present the results of our study and discuss their implications for research and practice. We conclude with the limitations of the study and our recommendations for future research.

2. Conceptual framework

Drawing on the literature in marketing, strategy and product innovation, we develop the following framework for the influence of business strategy on market orientation and new product activity (see Figure 1).

[Insert Figure 1 here]

The framework consists of three main elements: the firm's business strategy, the nature and extent of the firm's market orientation, and the extent of its new product activity. While several alternative typologies of business strategy exist (e.g., Mintzberg 1973 and Miles and Snow 1978), we employ Porter's (1980) typology because it is among the most widely used (e.g., Homburg, Krohmer and Workman 1999; Dess, Lumpkin and Covin 1997; Kotha and Vadlamani 1995) and because it has received considerable empirical support over time (Campbell-Hunt 2000; e.g., Robinson and Pearce 1988; Miller and Friesen 1986; Dess and Davis 1984). Regarding market orientation, we follow the literature in identifying customer and competitor orientation as key elements of the construct (e.g., Narver and Slater 1990; Slater and Narver 1998; Deshpandé and Farley 1996; Narver, Slater and MacLachlan

2000). Moreover, we regard market orientation as consisting of a set of behaviors that is reflective of an underlying market-oriented organizational culture (Narver and Slater 1990; Deshpandé, Farley and Webster 1993). Finally, as noted above, we focus on two specific aspects of new product activity: the extent of new product development and introduction (cf. Zahra 1993), in contrast to research that has focused on the new product development process as such (cf. Olson et al. 1995; Sethi 2000).

The framework posits three main links: (i) a direct link between strategy and new product activity, (ii) the influence of business strategy on market orientation, and (iii) the influence of market orientation on new product activity. Thus, we hypothesize both direct and indirect effects of strategy on firms' new product activity, and elaborate on these below.

Strategy is bound to directly influence a firm's degree of new product activity. As Simon (1993) notes: "The task of strategic planning is to assure a stream of new ideas that will allow the organization to continue to adapt to its uncertain outside world" (p. 141). Innovation is a primary means of adaptation and is therefore likely to be affected by strategy in a significant way. Moreover, the extent to which a firm engages in new product activity will also depend upon the *type* of strategic choices it makes. For example, as Miles and Snow (1978) argue, prospector firms are generally more engaged in innovation than defender firms are. Similarly, in order to differentiate themselves, differentiator firms may be more involved in new product activity than firms pursuing other strategy types (Porter 1980). Therefore, it is important to differentiate between strategy types to gain a clearer understanding of strategy's influence on product innovation. We will do so in the next section.

The link between strategy and market orientation builds upon the emerging discussion about market orientation operating at multiple levels in the firm (Deshpandé 1999). Currently, two views of market orientation dominate the literature: market orientation as an organizational culture and market orientation as a set of behaviors. The first, cultural view

posits a causal chain that leads from shared, organization-wide values that support a market orientation, through norms for market orientation that reflect expectations about specific behaviors, to actual market oriented behaviors themselves (Homburg and Pflesser 2000; Deshpandé and Webster 1989). Thus, values ‘influence the selection from available modes, means, and ends of action’ (Kluckhohn 1951) including organizational norms (Homburg and Pflesser 2000). As business strategy is an indisputable reflection of choices made by an organization (Porter 1996), strategy is also bound to be affected by these values. Further, as with norms, strategic choices give rise to expectations about behaviors that follow from shared values and which, in turn, influence specific behaviors that enable their implementation within the firm. Thus, the degree to which the behavioral dimension of market orientation reflects a customer or a competitor orientation depends upon the strategic choices made by the firm. The organizational culture view therefore complements the second, behavioral view which posits market orientation as consisting of a set of choices, behaviors and resource allocations reflective of an organization-wide responsiveness to customers’ needs and wants (Noble et al. 2002; see Ruekert 1992; Kohli and Jaworski 1990). To the extent that customer responsiveness is embedded within organizational values and norms, this view is consistent with the conceptualization of market orientation (that we adopt in this paper) as a set of behaviors captured by the behavioral components of customer and competitor orientation and reflective of a market-oriented organizational culture (Narver and Slater 1990). It is also consistent with the notion that functional marketing activities (i.e., behaviors related to the gathering, dissemination and responsiveness to information on customers and competitors [Kohli and Jaworski 1990]) are influenced by strategic choices at the business level (Walker and Ruekert 1987; Slater and Olson 2001). Moreover, these behaviors have been found to vary systematically by strategy type (Lukas 1999). Therefore,

we conceptualize specific links between different strategies and the behavioral components of market orientation within our framework.

The link between market orientation and new product activity is based on considerable research in marketing that has focused on the consequences of market orientation. Thus, Han, Kim and Srivastava (1998) argue that innovation is the missing link in the market orientation—performance relationship and find empirical support for this hypothesis. In a similar vein, Hurley and Hult (1998) focus on the influence of organizational antecedents, such as market and learning orientation, on the firm's ability to successfully adopt or implement new ideas, processes or products. Their study implies that market orientation, which involves interfunctional activity, is likely to strongly influence the extent of a firm's new product activity. More recently, Narver, Slater and MacLachlan (2000) propose and find support for a positive relationship between both reactive and proactive market orientation and a firm's innovation activity. And finally, research on product innovation has also found considerable support for the stimulating role of market information on new product activity and success (e.g., Ottum and Moore 1997).

In sum, our framework proposes that firms engage in new product activity to a greater extent depending upon the strategic choices they make (some strategies will result in more product innovation than others) and upon the degree to which their strategy influences the nature and extent of their market orientation (with one orientation stimulating product innovation more than the other). We therefore hypothesize a partially mediating role of market orientation between business strategy and new product activity.

We now use the framework to develop specific hypotheses linking various business strategies with market orientation and new product activity.

3. Hypotheses

Following our framework, we first present hypotheses linking the different business strategies to market orientation and firms' new product development and introduction. We then present hypotheses linking the two types of market orientation with new product activity.

3.1 Hypotheses linking business strategies with market orientation and new product activity

Cost leadership strategy. The strategy of cost leadership is aimed at achieving an above-average return on investment within an industry by means of "a high relative market share or other advantages such as favorable access to raw materials" (Porter 1980, p. 36). Thus, cost leadership requires a strong focus on the supply side as opposed to the demand side of the market. In particular, firms pursuing a cost leadership strategy must continuously benchmark themselves against other competing firms in order to assess their relative cost (and therefore profitability) position in the marketplace. This requires a high level of *competitor orientation* (Day and Wensley 1988). We thus expect cost leaders to be competitor rather than customer oriented. Moreover, cost leaders are unlikely to engage in developing and launching new products, as cost leadership positions are mostly achieved by refining existing products or models (Dess and Davis 1984). Consequently, we do not expect a direct effect of a cost leadership strategy on new product activity, after controlling for any indirect effects via competitor orientation. In sum, therefore:

H1: A firm's relative emphasis on pursuing *cost leadership* has a positive effect on its *competitor orientation*.

Differentiation strategy. The generic strategy of differentiation involves creating a market position that is perceived as being unique industry-wide and that is sustainable over the long run (Porter 1980). Such differentiation can be based upon design or brand image, technology, features, customer services, distribution, and so forth. In particular, differentiator firms create customer value by offering high-quality products supported by good service at premium prices (Walker and Ruekert 1987). The effectiveness of a differentiation strategy

depends on how well the firm can balance product benefits and product costs for the customer, relative to competitive offerings (Slater and Olson 2001). Consequently, such a strategy requires a thorough understanding of both customer needs and the positioning of competing firms (Day and Wensley 1988; Porter 1996). A firm's emphasis on differentiation will, therefore, positively influence both its *customer* and *competitor orientation*.

We also expect a direct effect of a differentiation strategy on *new product activity*, in addition to its indirect effects via market orientation. In particular, firms that employ technology as a primary means of achieving competitive advantage, differentiate themselves through products that employ cutting-edge technology (Hamel and Prahalad 1991). For example, Gatignon and Xuereb (1997) found that firms with a strategic orientation towards technology marketed products that were more radical, less similar to competing offerings and providing higher advantages. Given their objective of developing new products that create new market opportunities, technology oriented differentiators are likely to engage in innovative activities without a specific orientation towards customers or competitors (c. Workman 1993). Specifically, customers may not be a fruitful source of ideas for radical new products (Berthon, Hulbert and Pitt 1999); indeed, research suggests that a customer orientation may be harmful for innovation in such cases as it can stimulate myopia for new opportunities (Christensen and Bower 1996). Similarly, a competitor orientation may not be necessary either as the firm's focus is likely to be beyond the products currently offered (and technology currently used) in the marketplace (Berthon, Hulbert and Pitt 1999). Therefore, we expect that differentiation will also directly influence new product activity beyond any indirect effects via market orientation. Thus:

H2a: A firm's relative emphasis on pursuing a *differentiation* strategy has a positive effect on its *customer* orientation;

H2b: A firm's relative emphasis on pursuing a *differentiation* strategy has a positive effect on its *competitor* orientation;

H2c: A firm's relative emphasis on pursuing a *differentiation* strategy has a positive direct effect on its degree of *new product activity*.

Focus strategy. The generic strategy of focus involves serving a narrowly defined target market extremely well. Specifically, Porter (1980) points out that a focus strategy rests on the premise that the firm is “able to serve its narrow strategic target more effectively or efficiently than competitors who are competing more broadly” (p. 38). This strategy therefore requires a thorough understanding of customers in the target segment. Hence, firms that place a greater emphasis on a focus strategy are likely to be highly *customer oriented*. As niche marketers operate in a specific part of the market that is relatively free of competition, firms that place a greater emphasis on a focus strategy are not likely to be competitor oriented.

Firms that pursue a focus strategy often do so because they concentrate on developing highly specialized products (McDougall et al. 1994) or because they are relatively small and do not have the resources to broaden their served market (Eden et al. 1997). In both cases, focused firms will engage in *new product activity* to a lesser extent, but for different reasons. Specialized firms may be very innovative within their market domain but, given the narrowness of this domain, the extent to which they develop and launch new products will be limited (Zahra 1993). Alternatively, small firms that focus on a narrow market out of necessity, i.e., due to a lack of resources, will also lack the resources needed to develop and launch new products. Consequently, the extent to which these firms develop and launch new products will also be limited (Pelham 2000, p. 55-56). In sum, therefore:

H3a: A firm’s relative emphasis on pursuing a *focus* strategy has a positive effect on its *customer* orientation;

H3b: A firm’s relative emphasis on pursuing a *focus* strategy has a negative direct effect on its degree of *new product activity*.

3.2 Hypotheses linking market orientation with new product activity

Customer orientation. Firms may be either proactive or reactive in their approach to new product development and introduction. Firms that pursue a proactive approach are

heavily customer oriented: they focus entirely on identifying opportunities for satisfying both overt and latent customer needs (Slater and Narver 1998). Based on the market information they obtain, such firms generate new ideas and products aimed at satisfying customer needs independent of competitors' activities (Montoya-Weiss and Calantone 1994). Such firms also often work closely with customers (who may be other firms) in the early stages of the new product development process (Gruner and Homburg 2000). Von Hippel (1988) refers to such customers as lead users. Firms that are pro-actively involved in new product activity identify lead users in an early stage of the new product development process in order to develop products that fit customer needs and can be commercialized on a larger scale at a later stage. Consistent with these observations, Deshpandé, Farley and Webster (1993) and Han, Kim and Srivastava (1998) report positive relationships between customer orientation and organizational innovativeness. In line with these findings we hypothesize:

H4: A firm's relative emphasis on *customer* orientation has a positive effect on its degree *new product activity*.

Competitor orientation. Firms may follow a reactive approach to new product development in two possible ways: they may adopt 'me-too' or 'second-but-better' reactive strategies. Accordingly, a relative emphasis on competitor orientation can influence new product activity in two ways: directly and indirectly.

Firms that adopt a me-too strategy constantly benchmark their product offerings vis-à-vis relevant competitors. In order to achieve a cost advantage or avoid a cost disadvantage, firms may choose to directly imitate competitors' new products when these products result in cost savings. For example, the competitor's product may be based on more cost-effective technology which the firm then copies (Booz Allen & Hamilton 1982). Alternatively, me-too firms might try to copy competing product offerings to defend a strategic position in the market. Such firms are known to focus on quickly copying a competitor's new product

without paying much attention to the needs of customers (Calantone and Cooper 1981; Urban and Star 1991). Thus, Lukas and Ferrell (2000) found that pursuing a competitor orientation results in the launching of a larger number of me-too products by such firms. Therefore:

H5a: A firm's relative emphasis on *competitor orientation* has a positive direct influence on its degree of *new product activity*.

In contrast to me-too firms, firms that follow a second-but-better approach first await competitors' new products, evaluate these as opportunities or threats, and then respond by developing an improved new product vis-à-vis the target customer's needs (Nadler 1991; also see Schnaars 1994 for an extensive discussion of the benefits of imitation strategies in general). In order for a second-but-better approach to work, firms need to evaluate other positioning opportunities than those currently being used by their competitors. This requires an understanding of the benefits that customers value, on the basis of which such firms may either develop products with different attributes than those offered by competitors or else launch products very similar to competing offerings but with a different positioning. Both approaches require that the firm's competitor orientation be complemented by a customer orientation before a new product is developed or launched.

The perceived need for such firms to be customer oriented is supported by a recent study by Tyler and Gnyawali (2002) on managers' cognitive maps with respect to market orientation. The study concludes that "customer orientation is the most important aspect of their firm's market orientation" in the context of new product activity (p. 273) and finds that competitor orientation enhances customer orientation, rather than the opposite. Further, firms that are primarily customer oriented may be less inclined to focus on competitors given their knowledge of their target customers' needs. Day and Nedungadi (1994) report that in customer oriented firms "managers do not track the competition to any great degree, but instead rely on their customers to tell them how they compare with competitive offerings" (p. 41). The need for customer oriented firms to be competitor oriented as well may therefore be

much less than for competitor oriented firms to also be customer oriented. Consequently, we expect competitor orientation to positively influence customer orientation rather than the reverse. A second-but-better strategy thus suggests a possible alternative and indirect relationship between competitor orientation and new product activity. Therefore:

H5b: A firm's relative emphasis on *competitor* orientation has a positive indirect influence on the degree of new product activity via an enhanced *customer* orientation.

4. Method

4.1 Data collection and sample selection

We tested our hypotheses by means of a large-scale mail survey of manufacturing firms in the Netherlands. The questionnaire for the survey was pre-tested sequentially in three stages (cf. Churchill 1979). First, an initial version of the questionnaire was developed using previously developed scales in the literature. Second, experts from academia and a leading business-to-business market research agency were consulted on the face validity of the questionnaire. Third, personal interviews were held with managers of 12 large and medium-sized firms, including both general managers as well as functional area managers such as marketing managers, sales managers, financial managers and production managers. In this way we explored whether responses differed for managers of different types or levels, and found that this was not the case. All managers were asked to fill out the questionnaire in the presence of the researcher. Ambiguities and unclear questions were identified and noted. On the basis of the input received, several items were eliminated and others modified.

The empirical study was conducted among manufacturing firms that employed a minimum of 10 persons. The study focused on manufacturing rather than service firms as the former were considered more likely to provide variance in the variables of interest to the study. For instance, costs are easier to measure in manufacturing; therefore it is easier to identify and measure a cost leadership strategy among manufacturing than service firms.

Also, new products have a clearer definition and are therefore easier to identify and measure among manufacturing than service firms (De Brentani 1989).

The sample was drawn randomly from the population of all manufacturing firms in the Netherlands. The database was provided by a professional market research agency. The questionnaires were mailed to the general manager of the sampled firms. In the accompanying letter, the general manager of the firm or any other manager knowledgeable about the firm's business strategy, market orientation and new product activity was requested to fill out the questionnaire. As the pre-test showed no substantial differences in the responses based on the manager's level or type, we deemed the respondent's knowledge of the subject more important than his or her job title. We therefore stressed that the respondent should be the key informant within the firm on the issues being surveyed. A telephone reminder followed after two weeks. One hundred and eighty seven questionnaires were returned from a gross of 1,500 sent out, and this represents a 12.5% response rate. This is a conservative estimate, of course, as we did not correct for all questionnaires that proved to be undeliverable or that were falsely addressed. The response rate is also consistent with that reported by other mail surveys in related, business-to-business research (e.g., Gatignon and Xuereb 1997).

We dropped 5 questionnaires that were unusable due to incompleteness. We also dropped 7 questionnaires in which the respondent indicated that their firm was either a distributor, assembly plant or maintenance firm and therefore not engaged in new product activity. Thus, 175 questionnaires were used for further analyses. To investigate potential non-response bias in the data, we compared early and late responses with respect to the research variables (Armstrong and Overton 1977). The rationale behind this method is that late respondents show a greater resemblance to non-respondents than early respondents do.

We compared means on all items and found no significant differences between early and late respondents, suggesting that our data are free of response bias.

To further explore potential bias, we compared the sample characteristics with those of the population in terms of industry type and firm size (see Table 1). Respondents were distributed over a representative range of industries within manufacturing and over different firm sizes. The distribution of industries within our sample does not differ substantially from the population. A correlation analysis between the two distributions revealed a coefficient of 0.727 ($p < 0.05$). Our sample characteristics also reflect well the distribution of firms on size ($R = 0.927$, $p < 0.01$). However, firms larger than 10 employees are over represented in our sample. This is because, given the focus of our study, we excluded firms with less than 10 employees. Finally, most respondents were general (58%) or functional (21%) managers. As a result our responses are mainly from those most knowledgeable about the issues addressed in the questionnaire, increasing the validity of our data.

[Insert Table 1 here]

4.2 Measures

Our measures of business strategy and market orientation were based on multiple-item scales tested and used in previous studies. All scales used a five-point Likert format ranging from ‘strongly disagree’ to ‘strongly agree’. The measurement scales were obtained after a scale-purification procedure, which we discuss in the next section. See Table 2 for the items used as well as their means, standard deviations and reliability coefficients.

Business strategy was measured as a firm’s score on each of the three business strategies, i.e., differentiation, cost leadership, and focus. Each of these strategies was operationalized using multiple-item Likert scales. Items were adapted from Porter’s (1980) discussion of these strategies as well as from previous empirical studies that addressed these strategies. Differentiation was measured using a four-item scale based on Homburg, Krohmer

and Workman (1999), Miller (1988) and Porter (1980). Cost leadership was measured using a five-item scale based on Chandler and Hanks (1994), Porter (1980) and Narver and Slater (1990). Focus was operationalized using a four-item scale based on Narver and Slater (1990) and Segev (1987). Although business strategy has often been treated as a categorical variable in the strategy literature, it is also widely recognized that firms may simultaneously pursue a combination of competitive strategies (e.g., Walker and Ruekert 1987). Conceptually, therefore, we treat the three business strategies of cost leadership, differentiation and focus as complementary rather than mutually exclusive types (Campbell-Hunt 2000). Methodologically we ensure this by allowing a firm's business strategy to vary simultaneously on all three strategies. Thus any firm may score equally high (or low) on all of the three generic strategies.

Market orientation was measured to distinguish between a customer and a competitor orientation (Narver and Slater 1990; Jaworski and Kohli 1996). Operationalizations were based on previous studies of the market orientation construct (Kohli, Jaworski and Kumar 1993; Narver and Slater 1990; Ruekert 1992). A firm's degree of customer or competitor orientation was by assessed using respondents' scores on a 6 and 5-item scale respectively. As with strategy, these orientations were not assumed to be mutually exclusive.

Finally, two separate measures were used for *new product activity*. Respondents were asked to indicate the actual number of new products that were currently being developed in the firm as well as the number of new products that were launched by the firm in the year prior to the survey (c. Zahra 1993). Quantitative measures were preferred over more perceptual, subjective measures of new product activity. This ensured an operationalization independent of the ones used for other variables in the framework, especially those related to market orientation, avoiding common method bias. Moreover, as all respondents were from manufacturing firms operating in a business-to-business context, this minimized the

likelihood that they employed different definitions of ‘new products’ while providing their responses. Nevertheless, we conducted a post-hoc survey to confirm that this was the case. From our original sample, we randomly selected a subsample of firms and contacted them by phone. Of the 46 responding firms, 34 (74%) indicated that they considered both radically and incrementally new products as ‘new’; 9 (19%) only considered radically new products as ‘new’; and 3 (6%) refrained from answering the question. These findings provide strong evidence that most respondents in our sample used a similar conceptualization of new products in their response to our survey.

[Insert Table 2 here]

4.3 Reliability and validity of the measurement model

Following the approach proposed by Anderson and Gerbing (1988), we first assessed the measurement model before estimating the research model. In order to obtain reliable and valid measures of the focal constructs within our study, the items that were administered in the questionnaire were subjected to a scale purification procedure. Examination of face validity, inter-item, and item-to-total correlations resulted in the construction of the scales described above. All scales show satisfactory reliabilities (see Table 2), with Cronbach’s alpha ranging from 0.660 for cost leadership to 0.802 for competitor orientation.

Next, the unidimensionality of the constructs, reflected by the extent to which a single construct underlies a set of measures (items), was explored by means of confirmatory factor analysis. The overall fit of the measurement model provides the necessary information to determine whether unidimensionality is satisfied (Gerbing and Anderson 1988; Steenkamp and Van Trijp 1991). The overall fit of the model is good (see Table 2 for standardized estimates and z-values of individual regression coefficients). The Comparative Fit Index (CFI=0.975) is well above the recommended threshold of 0.90 for a satisfactory goodness of fit (Bentler 1992). Also the parsimonious fit measure χ^2/df (582.670/309) is below the

recommended threshold of 2.0 (1.886) and the root mean square error of approximation (RMSEA) is below the recommended 0.08 level (0.071). Therefore we can conclude that the unidimensionality criterion is satisfied.

Discriminant validity was assessed by estimating a series of confirmatory factor analyses, in which the correlation between pairs of constructs was restricted to 1. In the event that the χ^2 measure of the restrained model is significantly worse, the constructs can be considered to be discriminantly valid. All estimated models satisfied this criterion at the 0.05 significance level. Discriminant validity can also be assessed by means of a more stringent test which requires that the amount of variance extracted for each construct should exceed the squared correlation between them (Fornell and Larcker 1981). All constructs meet the Fornell and Larcker-criterion, except for customer orientation with respect to its correlation with competitor orientation ($\text{variance}_{\text{customer orientation}}=0.553 < \text{squared correlation}_{\text{customer orientation-competitor orientation}}=0.692$), although the latter is below the suggested threshold of 0.85. Moreover, as we hypothesized a path from competitor orientation to customer orientation, the relatively high correlation is not surprising.

4.4 Estimation of the research model

We performed two types of statistical analysis on our data. First, to test for the mediating role of market orientation, we followed the procedure proposed by Baron and Kenny (1986). Second, we used three-stage least squares (3SLS) analysis to estimate the system of equations depicted in Figure 1 and outlined below³.

- (1) $\text{CuO} = \beta_0 + \beta_1(\text{Diff}) + \beta_2(\text{Foc}) + \beta_3(\text{CostL}) + \beta_4(\text{CoO}) + \varepsilon_1$
- (2) $\text{CoO} = \beta_5 + \beta_6(\text{Diff}) + \beta_7(\text{Foc}) + \beta_8(\text{CostL}) + \varepsilon_2$
- (3) $\text{NPA} = \beta_9 + \beta_{10}(\text{Diff}) + \beta_{11}(\text{Foc}) + \beta_{12}(\text{CostL}) + \beta_{13}(\text{CuO}) + \beta_{14}(\text{CoO}) + \varepsilon_3$

where: CuO = customer orientation
CoO = competitor orientation
Diff = differentiation strategy
CostL = cost leadership strategy

³ We also included non-hypothesized effects in order to ensure that they were indeed non-significant as expected.

Foc = focus strategy
NPA = new product activity
all ε s = disturbance terms for the respective equations

The 3SLS procedure is ideal for dealing with the simultaneous effects in our model as it handles both the endogeneity of the market orientation variables as well as the possibility of correlated errors between the independent variables (Greene 2002). Moreover, our use of 3SLS is consistent with that of comparable studies (e.g., Han, Kim and Srivastava 1998).

5. Results

The mediating role of market orientation

A key premise of our framework is that the influence of business strategy on new product activity is at least partially mediated by market orientation. For full mediation, four conditions have to be met (Baron and Kenny 1986) (see Table 3 for results of these tests). First, the antecedent independent variables (business strategies) should influence the dependent variable (new product activity). To test for this, we estimated a model of the 3 business strategies on new product activity and found that differentiation ($\beta=.10^4$, $p<0.005$) and focus ($\beta=-.11$, $p<0.005$) significantly influence new product activity (see Table 3). Second, business strategy should influence the mediator (market orientation). To test for this, we estimated a model of the 3 business strategies on market orientation collapsed into a single construct⁵ (cf. Han, Kim and Srivastava 1998) and found that differentiation ($\beta=.45$, $p<0.005$) and cost leadership ($\beta=.17$, $p<0.05$) significantly influence market orientation. Third, the mediator (market orientation) should influence the dependent variable (new product activity). We found that this was true ($\beta=.14$, $p<0.005$). And finally, the mediator (market orientation) should influence the dependent variable (new product activity) controlling for the direct effect of the independent variables (business strategies). The results indicate that the condition is not

⁴ All β s are standardized.

⁵ In the 3SLS-estimation below, we also test for mediation with individual market orientations.

fully satisfied. While the influence of market orientation on new product activity is significant ($\beta=.04$, $p<0.10$), so too is the influence of differentiation ($\beta=.08$, $p<0.005$) and focus ($\beta=-.06$, $p<0.05$). Taken together, these results provide support for a *partially mediating* role of market orientation between business strategy and new product activity (see Baron and Kenny 1986)⁶.

[Insert Table 3 here]

Business strategy, market orientation and new product activity

Table 4 reports the results of the 3SLS analysis conducted to test our hypotheses as represented in Figure 1 and equations 1-3 above. Table 5 reports the direct and indirect effects of the variables in the model, computed using the standardized coefficients from Table 4. Finally, Figure 2 reports these results in the context of our conceptual framework, representing the standardized estimates on the corresponding individual pathways.

The results show support for H1. The influence of cost leadership on competitor orientation is positive and significant as predicted ($\beta_8=.15$, $p<.05$).

The results support H2a and H2b. Specifically, as predicted, differentiation has a positive significant influence on customer ($\beta_1=.43$, $p<.005$) and competitor orientation ($\beta_6=.40$, $p<.005$) respectively. H2c is also supported as differentiation has a positive significant direct influence on new product activity ($\beta_{10}=.12$, $p<.05$).

In contrast to H3a, which hypothesizes a positive influence of focus on customer orientation, the results suggest a negative effect ($\beta_2=-.12$, $p<.05$). However, H3b is supported as focus has a negative influence on new product activity ($\beta_{11}=-.25$, $p<.005$).

In support of H4, customer orientation has a positive influence on new product activity ($\beta_{13}=1.85$, $p<.005$). However, in contrast to H5a, competitor orientation has a negative

⁶We also tested for a potentially moderating influence of market orientation on the business strategy-new product activity relationship (Matsuno and Mentzer 2000). None of the interaction terms between the three business strategies and the market orientation construct were significant, suggesting no support for a moderating effect of market orientation on the business strategy-new product activity link.

influence on new product activity ($\beta_{14} = -1.78, p < .005$)⁷. But, in support of H5b, competitor orientation also has a positive significant influence on customer orientation ($\beta_4 = 1.05, p < .005$). Finally, the only non-hypothesized effect that was found to be significant was the influence of cost leadership on customer orientation ($\beta_3 = .14, p < .05$).

In sum, the 3SLS results provide considerable support for our hypotheses as well as for a partially mediating role of market orientation in the strategy $\rightarrow$ NPA relationship.

[Insert Table 4, Table 5 and Figure 2 here]

6. Discussion

The results of this study provide general support for our conceptual framework and hypotheses. The results show that new product activity is simultaneously influenced by business strategy both directly and indirectly via market orientation. The results also support more specific conclusions. First, our general claim that a firm's strategy influences the nature and the extent of its market orientation is well supported. Firms that place a greater emphasis on a differentiation strategy or a cost leadership strategy are more likely to be both customer and competitor oriented. Further, a greater emphasis on a focus strategy leads to less emphasis on customer orientation. Second, the results also support the claim that a different emphasis on different components of market orientation leads to varying amounts of new product activity. Thus, greater customer orientation leads directly to increased new product activity. Greater competitor orientation, on the other hand, has a negative direct effect on new product activity and only indirectly leads to increased new product activity via increased customer orientation. Finally, business strategy also directly influences new product activity in addition to its indirect effects via market orientation. Thus, differentiation increases and

⁷ We conducted several tests to check if this negative effect was due to multicollinearity. We found no evidence of multicollinearity. Specifically, the condition number of customer and competitor orientation was 2.15, well below the cut-off of 20 (Belsley et al. 1980) and the vif (variance inflation factor) statistics of various OLS formulations of new product activity versus customer and competitor orientation and focus, differentiation and cost leadership were never greater than 2.13, well below the cut-off level of 10. Moreover, the negative

focus decreases a firm's level of new product activity. Indirectly, cost leaders show higher levels of new product activity given that they are also more customer oriented.

Three unexpected findings of our study merit further discussion: (i) the negative effect of a focus strategy on customer orientation, (ii) the negative effect of competitor orientation on new product activity, and (iii) the positive effect of a cost leadership strategy on customer orientation. To shed more light on these findings, we conducted follow-up interviews with managers of several firms similar to the ones in our sample. We integrate the insights from these interviews with other relevant research in a discussion of these unexpected findings.

The negative effect of a focus strategy on customer orientation. A study of successful niche marketers by Hamermesh, Anderson and Harris (1978) suggests a possible explanation for this finding. Their study found that niche firms: (1) focus their activities only in areas where they have specific strengths, (2) make efficient use of R&D resources, and (3) place considerable emphasis on operations. In other words, niche firms are successful vis-à-vis other firms in the industry precisely because they focus on a narrow market in combination with a focus on a specific technology. As the manager of a focused firm we interviewed said: “*We first look at our own possibilities and only then listen to the customer.*” Another manager, from a similar type of firm, said that “*distinctive technology and quality matter most to us.*” Thus, marketing's role in focused firms may be limited, as Workman (1993) discovered in his in-depth study of a firm focused on computer services. The limited customer orientation of firms pursuing a focus strategy is in turn likely to negatively affect the extent of new product activity within such firms, as we found in our study.

Another explanation for our finding may be the scarcity of resources that firms following a focus strategy are likely to suffer from. Due to a lack of access to resources, such firms may spend less time and money on customer research and new product development.

coefficient between competitor orientation and new product activity was robust to alternative 3SLS specifications in which we first dropped and then reversed the CoO→CuO link.

Instead, they may spend resources on utilizing and/or improving their unique existing portfolio. Based on a study of the relationship between strategy, resources and performance among small service and retail firms within the U.S., Brush and Chaganti (1998) conclude that “there are certain contexts,” such as when small companies are involved, in which “strategy choice matters less than resources” (p. 253). To the extent that our finding is due to the scarcity of resources that niche firms face, the finding provides support for the resource-based view of the firm (Wernerfelt 1984) rather than the market orientation view that has been so influential in the recent marketing literature.

The negative effect of competitor orientation on new product activity. Our results show that competitor oriented firms are either less engaged in new product activity or engage in such activity only if they also have a higher degree of customer orientation as well. The former view is consistent with Han, Kim and Srivastava’s (1998) finding that a firm’s competitor orientation shows no relation to its innovative activity. To the extent that a greater customer orientation reflects a more proactive market orientation than does a greater competitor orientation (c. Slater and Narver 1998), this is also consistent with Narver, Slater and MacLachlan’s (2000) finding that a proactive market orientation is more highly related to innovation than a reactive market orientation is. Our finding that competitor oriented firms only engage in higher degrees of new product activity in the event that they are also more customer oriented, suggests that a pure imitation or me-too strategy, defined as one in which a competitor’s product is copied immediately on its introduction without any customer research whatsoever, is a very rare phenomenon indeed. Reactive strategies are likely to involve some amount of customer research subsequent to competitor intelligence, either to improve on the competitor’s product vis-à-vis the target customers, or in order to test the me-too product on customers (c. Schnaars 1994). As markets become increasingly competitive, the need for understanding both competitors and customers in order to innovate successfully

becomes more pronounced (which is also illustrated by the high correlation between customer and competitor orientation that we found in this study). Our finding that customer orientation rather than competitor orientation drives new product activity was also supported by the general view of managers that market orientation in essence relates to “*a central focus on the customer*”, and that product development is thus driven by “*beginning with customers and evaluating how we can satisfy their needs.*”

The positive effect of cost leadership strategy on customer orientation. Our findings suggest that firms pursuing a cost leadership strategy also carefully monitor customers in addition to competitors. An important reason for this may be that cost leaders need to understand the drivers of perceived customer value in order to assess whether cost advantages should be passed on to the customer. Also, a sound knowledge of the customer market is essential in order to make choices on how the marketing effort can be minimized in the most effective way. Both aspects are critical as they can affect profitability substantially (Slater and Olson 2001). Furthermore, customers may be an important source of information on the cost position of competitors, especially in business-to-business markets. Our interviews indicated that firms mostly learn about competitors by talking to their customers. As one manager we interviewed said: “*Our management meets with our 10 to 12 key customers every three months in order to discuss the key players and issues within the market.*”

7. Implications for research and practice

Taken together the findings of our study have several important implications for research and practice. First, our findings point to the critical role of customer orientation as a mediator between business strategy and new product activity. As differentiation, cost leadership and focus are all directly related to customer orientation, customer orientation

emerges as a central feature of the link between business strategy and market orientation. Further, customer orientation is the only aspect of market orientation that has a positive effect on new product activity. The implication of this for research is that it clearly supports the prevailing view that customers are the key focus of any market oriented firm (Deshpandé, Farley and Webster 1993; Deshpandé and Farley 1996; Tyler and Gnyawali 2002). Specifically, our results support Deshpandé and Farley's (1996) definition of market orientation as "the set of cross-functional processes and activities directed at creating and satisfying *customers* through continuous needs-assessment". The implication for practice is that a prerequisite for improving market oriented activities like new product development is the need to focus on customers above other aspects of the market. Firms that fail to focus on customers are likely to fail to develop and introduce products into the market, and this will of course have a damaging impact on their long-term growth and survival. Successful NPD requires both an organization-wide commitment to customer oriented behavior as well as an organizational culture that is supportive of it (e.g., Homburg and Pflesser 2000).

Second, our findings suggest different pathways to innovation. Specifically, our findings support existing research that distinguishes between proactive approaches in which firms are primarily customer oriented and reactive approaches in which they are primarily competitor oriented. Moreover, our findings also suggest that reactive approaches are of two types: me-too firms are competitor oriented without being customer oriented and second-but better firms are first competitor and then customer oriented. The implication of these findings for research is that they support the view that true customer orientation is a *long-term* commitment to understanding customer needs rather than merely a short-term philosophy in which the organization responds to customers' *expressed* wants (Slater and Narver 1998, p. 1002). This is because the latter approach is typical of a 'customer-led' rather than a 'market oriented' firm (Slater and Narver 1998). Our study shows that such proactive, customer

orientated approaches are indeed widespread among firms, in particular among those pursuing product differentiation. The implication of these findings for practice are that, while proactive approaches are important and widespread, they are by no means the only ones available to firms. Firms may also pursue imitative new product strategies with great success (see Schnaars 1994), especially if the imitative strategy is a second-but-better rather than simply a me-too approach. Thus, firms that are unable or unwilling to invest in the considerable costs involved in being proactive may also quite effectively step-up their new product activity by first scanning the competitive environment for new product ideas, and then improving these ideas with some additional customer analysis to introduce products that are better in features or positioning to those that exist in the marketplace.

Our finding of different pathways to new product activity via customer and competitor orientation also implies that studying market orientation as a composite construct might result in ignoring subtleties due to its multidimensionality. Such a practice might in turn lead to incomplete or misleading conclusions about the usefulness to firms of being market oriented as such. Specifically, our findings strongly suggest that the individual dimensions of market orientation—customer and competitor orientation—may not be equally or always relevant to a particular firm (see also Noble, Sinha and Kumar 2002). Depending on a firm's strategy, it may place greater emphasis on, say, customers rather than competitors, before executing cross functional, market related activities such as new product development and introduction. The implication of this finding for theory is that future research should disentangle the effects of competitor and customer orientation rather than treat them as one composite construct. The implication for practice is that it would be wrong to exhort firms to be market oriented as such rather than more customer or competitor oriented, depending upon their strategic objectives. Instead, firms would need to consistently and synergistically align their strategic choices with an emphasis on different players in the

market. Pursuing an orientation towards different players without carefully embedding these activities within overall strategic choices could harm firms' specific operations (c. Berthon, Hulbert and Pitt 1999).

The variation we find in firms' emphasis on the individual dimensions of market orientation suggests a fourth implication of our paper. Considerable past research has found that the relative importance of market orientation to a firm's success depends critically on the environment in which the firm operates (Grewal and Tansuhaj 2001; Homburg and Pflesser 2000; Han, Kim and Srivastava 1998; Greenley and Foxall 1998). To the extent that a firm's strategy is an adaptive response to the environment in which it operates (Porter 1980, 1996), our results support the conclusions of research on the contingent role of market orientation across environmental contexts. However, our findings also suggest an additional contingency effect that has not been highlighted in the literature: the resources of the firm. As we point out above, a key finding of our study is that firms that follow a focus strategy are less rather than more customer oriented. Our interviews suggest that this has an explanation in the resources available to firms: small firms are more likely to pursue a focus strategy because they lack resources, which in turn means they are less able to spend time and money on customer research and new product development. The implication of this finding for theory is that future research may wish to integrate a resource-based view of the firm (Brush and Chaganti 1998; Wernerfelt 1984) with existing research on environmental effects to develop a more complete contingency theory of market orientation. The implication for practice is that firms should combine an evaluation of their resources as much as their environment in selecting the relative emphasis they place on, and resources they devote to, individual dimensions of market orientation and subsequent market oriented activities such as new product development.

8. Limitations and future research

The limitations of this study also offer several opportunities for future research. First, this paper seeks to enhance our understanding of how strategy affects new product activity through the firm's market orientation. The focus is therefore more on a descriptive understanding of the forces driving new product activity within the firm rather than prescribing how new product activities should be executed. Although we deliberately excluded new product success as a dependent measure of interest, future research could examine how different strategic choices affect new product success given the extent and nature of the firm's market orientation. Such research would extend and integrate previous research that has been conducted on the strategy-new product success relationship (e.g., Dyer and Song 1998) and the market orientation-new product success relationship (Athuene-Gima 1995) respectively.

Second, we employ a conceptualization of market orientation that reflects market oriented behaviors embedded within a larger market oriented organizational culture. However, we do not explicitly consider the role of shared values and norms that may be related to a market oriented culture. Nevertheless, such norms and values may influence both business strategy choices as well as market oriented behaviors (Homburg and Pflesser 2000). By building on the behavioral and cultural views of market orientation, and by including constructs related to both a market oriented organizational culture as well as market oriented behaviors, future research can shed light on the evolving debate about market orientation as a multiple-level construct within the firm (e.g., see Matsuno and Mentzer 2000). Specifically, future research may model market oriented values and norms as antecedents of business strategy, in addition to modeling market oriented behaviors and activities (such as new product activity) as consequences of strategy.

Third, future studies may benefit by incorporating more fine-grained measures of, in particular, new products and a differentiation strategy respectively. In the present research, we focused on ‘new products’ in general. These products could be either new to the firm or new to the market. Moreover, they could be either incrementally new or radically new. Using our study as a starting point, future research may employ more fine-grained definitions of new products to examine the influence of business strategy and market orientation on the development and introduction of incremental versus radical products, thus building upon the recent work in market orientation on reactive versus proactive approaches to innovation (Narver, Slater and MacLachlan 2000). Finally, our measure of a differentiation strategy is more reflective of product and technology rather than, say, distribution-based differentiation. Future studies could use a broadened scope in measuring differentiation in order to reflect drivers not considered here.

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TABLE 1
Sample characteristics

Industry responses ¹		No. of employees ¹	Respondents
Foods	8% (11%)	10-19: 35% (10%)	General manager: 58%
Clothing/textile/wood/paper	10% (14%)	20-49: 23% (9%)	(Chief) financial
(Petro)chemicals	10% (5%)	50-99: 18% (4%)	officer: 9%
Machinery equipment	14% (10%)	100-199: 13% (2%)	Controller: 3%
Metals, construction materials	10% (5%)	≥ 200: 12% (2%)	Marketing
Fabricated metal products	19% (16%)		manager: 3%
Finished products	25% (27%)		Sales manager: 3%
Others	3% (12%)		HRM manager: 3%
			Other: 21%

¹ Percentage of category within population between parentheses.

TABLE 2

Scale reliabilities (Cronbach alpha), scale items, and item means, standard deviations and standardized regression coefficients (estimates from confirmatory factor analyses with corresponding z-values⁸)

Business Strategy	Mean ⁹	S.D.	Coefficient/Z-value	
<i>Differentiation</i> (alpha=0.691; n=173)				
1. Our firm is always the first to market a new product	2.67	1.152	0.676	n.a.
2. Relative to competition, our firm is always ahead in technological innovations	3.31	1.202	0.609	6.404
3. Research and development of new products is very important within our firm	3.44	1.283	0.735	7.177
4. Our organization distinguishes itself from competition by the quality of its products	4.28	0.718	0.329	3.715
<i>Cost leadership</i> (alpha=0.660; n=174)				
1. Our organization emphasizes cost reduction in all its business activities	3.69	1.082	0.460	n.a.
2. In our organization the production process changes all the time with the goal of constantly reducing production costs	3.13	1.333	0.742	4.791
3. Our organization invests mainly in large projects to realize economies of scale	2.58	1.219	0.589	4.543
4. In our organization, cost is the most important consideration in the choice of distribution system	3.01	1.155	0.414	3.754
5. Our organization tries to force competitors out of the market by good cost control	3.28	1.155	0.417	3.766
<i>Focus</i> (alpha=0.682; n=173)				
1. Our firm produces one single, unique product	1.79	1.243	0.442	n.a.
2. Our firm attempts to specialize by concentrating on producing a limited number of products	3.26	1.362	0.677	4.561
3. Our firm is active in a broad domain of products (Reversed scale)	2.66	1.476	0.704	4.589
4. Our firm targets a specific, limited part of the markets with her products	3.31	1.404	0.552	4.254

⁸ In the estimation of the measurement model every first item for each construct was fixed; therefore no z-values are available for these items.

⁹ All measures relate to 5-point Likert scales (5=strongly agree) except for New Product Activity, which was measured on a continuous scale.

TABLE 2 (Continued)

Market Orientation	Mean	S.D.	Coefficient/Z-value	
<i>Customer orientation</i> (alpha=0.719; n=173)				
1. Our organization puts a lot of time into after sales service	3.11	1.252	0.595	n.a.
2. Our organization is better than competitors in knowing the wants and needs of customers	3.50	0.964	0.480	5.295
3. In our organization information about customers is regularly and systematically collected	3.35	1.155	0.490	5.385
4. In our organization, there are specific plans for different segments of the market	3.35	1.277	0.688	6.946
5. Quality improvement is based on suggestions made by customers	3.50	1.066	0.418	4.715
6. Information about customers is used in our organization to make technological improvements	3.50	1.134	0.576	6.102
<i>Competitor orientation</i> (alpha=0.802; n=175)				
1. In our organization, information about competitors is regularly and systematically collected	3.18	1.249	0.719	n.a.
2. In our organization, potential future competitors are carefully monitored	3.37	1.242	0.646	7.724
3. Employees in the sales and/or marketing department of our organization spend much time exchanging information on strategies of competitors	2.47	1.198	0.666	7.952
4. During management meetings strengths and weaknesses of competitors are always on the agenda	2.07	1.127	0.561	6.748
5. We react quickly to competitors' actions	3.16	1.149	0.754	8.900
New Product Activity (alpha n.a.)				
How many new products are currently being developed by your company? (number)	4.64	9.973		
How many new products were introduced by your firm in the past year? (number)	9.17	34.216		

TABLE 3										
Mediator Test for Market Orientation between Business Strategy and New Product Activity (Regressions)										
Relation/independent var.:	Strategy → NPA			Strategy → MO			MO → NPA	Strategy + MO → NPA		
	Diff	CostL	Foc	Diff	CostL	Foc	MO	Diff	CostL	Foc MO
Dependent Variable:										
Market Orientation				.45***	.17**	n.s.				
NPA	.10***	n.s.	-.11***				.14***	.08***	n.s.	-.06** .04*

* p<.10; ** p<.05; *** p<.005; n.s. = p>0.10;
Based on standardized variable scores, standardized coefficients reported.

<p>TABLE 4 3SLS Model Estimation Results for Market Orientation as Mediator between Business Strategy and New Product Activity (Hypothesized Model with Simultaneous Effects on NPA)</p>					
Independent variable:	Diff	CostL	Foc	CuO	CoO
Dependent Variable:					
Customer Orientation	.43***	(.14**)	-.12**		1.05***
Competitor Orientation	.40***	.15**	n.s.		
NPA	.12**	n.s.	-.25***	1.85***	-1.78***

* p<.10; ** p<.05; *** p<.005; n.s. = p>0.10.
Based on standardized variable scores.
Non-hypothesized effects found to be significant are indicated in parentheses

TABLE 5
Direct and Indirect (via Market Orientation) Effects of Business Strategy on New Product Activity
(Based on 3SLS Results of Hypothesized Model)

	Direct Effects	Indirect Effects	
<i>Business Strategy → NPA:</i>			
Cost Leader Strategy	--	-.26	(CL → CoO) * (CoO → NPA) [.15 * -1.78]
		.29	(CL → CoO) * (CoO → CuO) * (CuO → NPA) [.15 * 1.05 * 1.85]
		.25	(CL → CuO) * (CuO → NPA) [.14 * 1.85]
Differentiation Strategy	.12	.79	(Diff → CuO) * (CuO → NPA) [.43 * 1.85]
		-.71	(Diff → CoO) * (CoO → NPA) [.40 * -1.78]
		.77	(Diff → CoO) * (CoO → CuO) * (CuO → NPA) [.40 * 1.05 * 1.85]
Focus Strategy	-.25	-.22	(Focus → CuO) * (CuO → NPA) [-.12 * 1.85]
<i>Market Orientation → NPA:</i>			
Competitor Orientation	-1.78	1.94	(CoO → CuO) * (CuO → NPA) [1.05 * 1.85]
Customer Orientation	1.85	--	

Based on standardized variable scores.

FIGURE 1
Framework for the Influence of Business Strategy on Market Orientation and New Product Activity

FIGURE 2
Results for the Influence of Business Strategy on Market Orientation and New Product Activity¹⁰

Business Strategy Market Orientation New Product Activity

—————▶ = Hypothesized paths
▶ = Significant, non-hypothesized path

¹⁰ Significant coefficients (see Table 4) from 3SLS results are reported [based upon standardized variable scores].