View metadata, citation and similar papers at core.ac.uk

brought to you by CORE

provided by DSpace at VU

Faculteit der Economische Wetenschappen en Econometrie

SERIE RESEARCH MEMORANDA

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

Ruud T. Frambach
Jaideep Prabhu
Theo M.M. Verhallen

Research Memorandum 2000-34

November 2000

vrije Universiteit amsterdam

The Influence of Business Strategy on New Product Activity: The Mediating Role of Market Orientation[1]

Ruud T. Frambach
Jaideep Prabhu
Theo M.M. Verhallen[2]

Correspondence:

Ruud T. Frambach
Vrije Universiteit Amsterdam
Faculty of Economics and Business Administration
Department of Information, Marketing and Logistics
De Boelelaan 1105
1081 HV Amsterdam
The Netherlands
Telephone: +31 20 4446050
E-mail: rframbach @econ.vu.nl

[1] The authors gratefully acknowledge Heliview Market Research and the Institute for the Study of Business Markets, ISBM, at Penn State University for funding this research. The authors would like to thank Harry Barkema, Filip Caeldries, Jean-Francois Hennaert, Natalie Kuznetsova, and Hans Pennings for helpful comments and useful suggestions on previous versions of this paper.

[2] Ruud T. Frambach is Professor of Marketing at the Vrije Universiteit Amsterdam; Jaideep Prabhu is Assistent-Professor at Cambridge University, UK; Theo M.M. Verhallen is Professor of Marketing and Dean of The Faculty of Economics and Business Administration at Tilburg Univerity, The Netherlands.

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

Abstract

In this paper we examine how business strategy influences the nature and extent of firms' market orientation and how this in turn influences the extent of firms' new product activity. Specifically, we develop a framework linking firms' relative emphasis on cost leadership, product differentiation and focus strategies on firms' customer, competitor and supplier orientation as well as their new product development and introduction activity. We use this framework to develop relevant hypotheses which we then test on survey data from 157 Dutch firms of varying sizes and from across various industries. The surprising findings are that a greater emphasis on a focus strategy results in a decreased emphasis on customer orientation and that competitor orientation influences new product activity only indirectly via customer orientation. Limitations of the study and implications of the findings for future research on market orientation and new product activity are discussed.

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., Cooper 1998, Montoya-Weiss and Calantone 1994) as well as the consequences of such activity (Cardozo et al. 1993; Nobeoka and Cusumano 1997, Manu and Sriram 1996; Chaney and Devinney 1992) 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 apt to be influenced by the firm's strategic orientation. 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, which are similar in some respects to Porter's differentiators (Miller and Friesen 1986), 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 potential mediating constructs between these variables.

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 1996). 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 influences the extent to which firms 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 (Slater and Narver 1994). In short, therefore, the extent and nature of a firm's market orientation will mediate the relationship between the firm's business strategy and its new product activity. For example, even a firm that predominantly follows a differentiation strategy could pursue new product activity in different ways depending on whether its focus is more on customers (pro-active) or competitors (reactive). Specifically, a pro-active firm will identify and respond to long-term customer needs and thus be more customer oriented (Slater and Narver 1998), whereas a reactive firm will identify and respond to competitors' actions and thus be more competitor oriented. Even 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. In particular, market orientation has been treated in the literature as primarily unidimensional, even though the construct is multidimensional. In this paper we aim to correct this shortcoming of the existing research on market orientation.

Our research contributes to the existing research in the following ways. First, in contrast to most research on market orientation which ignores dimensions of market orientation other than customers and competitors'[2], we also examine a third consistuency of strategic importance to firms, namely suppliers (Dyer 1996). Second, in contrast to the existing research on new product development which typically examines factors that lead to successful new product activity and is

therefore mainly prescriptive in nature, we adopt a descriptive approach that seeks to understand what drives the extent of new product activity within a firm. Third, by examining the 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"[4] (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. Finally, as market orientation refers to the implementation of the marketing concept within the firm (Kohli and Jaworski 1990), our approach provides additional insight into the role of the marketing function within the firm and its contribution towards the implementation of the firm's strategic orientation (Anderson 1982; Homburg, Workman and Krohmer 1999). Given that some have questioned both 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 1993, 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 develop a conceptual framework linking firms' business strategy to the nature and extent of their market orientation and the extent of their

[3] An exception is Gatignon and Xuereb (1997) who examine a firm's 'strategic orientation' by considering technology orientation in addition to customer and competitor orientation.

[4] Slater and Narver might be exaggerating somewhat in making their case here; perhaps what they mean is that a business is market oriented only when . . . *most* business processes are directed at creating customer value." We thank an anonymous reviewer for pointing this out to us.

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 the implications of these results for existing research. We conclude with the limitations of the study and our recommendations for future research.

BACKGROUND

The framework driving this research 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. Before introducing the framework itself we provide some background on each of these elements and their components individually. We then introduce the framework and elaborate on the links between the three main elements and their components.

Business strategy. Business strategy is concerned with the way in which a firm may achieve a sustainable, defendable position in a specific market (Porter 1980, 1996; Slater 1996). Several typologies of business strategies have been identified in the literature, e.g., Mintzberg (1973), Miles and Snow (1978) and Porter (1980). The Mintzberg (1973) typology is based on the process of strategy formulation within the organization and identifies three such modes: entrepreneurial, adaptive, and planning. The Miles and Snow (1978) typology is based on the manner in which firms gather and use information about the business environment and identifies four broad types of strategies: prospector, defender, analyzer and reactor. Finally, the Porter (1980) typology is based on the manner in which firms choose to position themselves in the marketplace vis-a-vis competition and identifies three main strategies: a differentiation strategy aimed at differentiating one's offerings vis-a-vis the competition, a cost leadership strategy geared at achieving a low cost position relative to competitors, and a focus strategy that reflects a firm's choice to target a specific (niche) market.

While both the Mintzberg and Miles and Snow typologies have been widely studied (Segev 1987) we choose to focus on Porter's typology for the following reasons. First, Porter's typology has received considerable empirical support (Robinson and Pearce 1988; Miller and Friesen 1986; Dess and Davis 1984; Hambrick 1983) and has consequently been widely employed in strategy research (e.g., Homburg, Krohmer and Workman 1999; Dess, Lumpkin and Covin 1997; Kotha and Vadlamani 1995; McGee, Dowling and Megginson 1995). Indeed, in a recent meta-analysis on generic competitive strategy, Campbell-Hunt (2000) states that "Porter's theory of generic competitive strategy is unquestionably among the most substantial and influential contributions that have been made to the study of strategic behavior in organizations" (p. 127). Second, Porter's typology primarily describes the content of a firm's strategic choices, and this makes it particularly relevant to our study. Specifically, these strategies by definition concern a firm's position in a particular market; therefore they are particularly likely to drive the extent and nature of orientation that the firm adopts in that market. Moreover, each one of these generic strategies requires different skills, resources, organizations and cultures (Porter 1980, p. 40-41). Consequently, a firm that pursues a differentiation strategy will be oriented towards different aspects of the market than a firm that primarily pursues a cost leadership or focus strategy. Finally, although Mintzberg and others (Kotha and Vadlamani 1995) have criticized the Porter typology for being simplistic, the parsimony it offers offsets any limitations it may have in terms of its lack of complexity.

In using Porter's typology, however, we make two important adaptations in order to overcome some of its shortcomings. First, we recognize that business strategy does not solely relate to a firm's choice of market position but also reflects the resources that are central to the firm. Thus, following the resource-based view of the firm (Wernerfelt 1984), we recognize the

role of resources in our conceptualization of business strategies and its influence on market orientation and new product activity. Moreover, we incorporate resource-related measures in our operationalization of business strategies. For instance, the scale we use to measure differentiation is based on descriptions of differentiators with respect to both their strategic profile (e.g., 'our organization distinguishes itself from competition by the quality of its products') as well as their skills and resources (e.g., 'our organization is very capable at marketing').

Second, we recognize that the generic strategies proposed by Porter are not necessarily mutually exclusive. Although a recent meta-analysis on competitive strategy (Campbell-Hunt 2000, p. 145) found that "the frequency of mixed designs is relatively low; and cost and differentiation do act as high-level discriminators of competitive strategy designs" it is also true that new developments such as mass customization make the distinction between differentiation and cost advantage more and more difficult to discern[5]. Thus it is widely recognized that firms may sometimes simultaneously pursue a combination of competitive strategies (e.g., see Walker and Ruekert 1987). Conceptually, therefore, we treat the three business strategies of cost leadership, differentiation and focus as complementary rather than mutually exclusive. 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. Kohli and Jaworski (1990) refer to the market orientation construct as the implementation of the marketing concept within the organization. Specifically, market orientation is the process of gathering, disseminating, interpreting and storing information on relevant market actors within the firm (Kohli and Jaworski 1990; Sinkula 1994; Slater and

[5] We thank an anonymous reviewer for bringing this to our attention.

Narver 1995; Maltz and Kohli 1996). Considerable research has focussed on developing and refining measures of market orientation and empirically verifying its influence on firms' performance. The main finding of this research has been that the more market oriented a firm, the more profitable it is.

Recent research, however, has raised questions related to the conceptualization of the construct, its implications for the firm and how it should be implemented within the firm. First, what are the implications of the construct for the individual firm, in particular for its performance ? Reviewing studies of market orientation's positive influence on performance (Jaworski and Kohli 1993; Slater and Narver 1994), Greenley (1995) raises the issue of whether all firms ***are*** or indeed ***should be*** market oriented in the same way in different contexts. It is possible, in certain contexts, for instance in commodity markets where costs are paramount, that market orientation is unnecessary or indeed harmful to the firm. In more consumer-oriented markets, however, where differentiation might be critical, market orientation is likely to have a much more significant influence on a firm's performance. Moreover, the market oriented firm is characterized by an orientation towards different actors in its environment (Shapiro 1988). While most research has focused on customers and competitors (Narver and Slater 1990), other actors such as suppliers may play an important role as well (Dyer 1996). It is likely that in certain contexts firms might be better off focusing on one constituency rather than others, while in other contexts firms might be better off focusing on more than one constituency. For instance, in commodity markets, firms might be better off focussing on competitors and suppliers rather than consumers, while in consumer markets, the reverse might well be the case. Indeed, as we argue in this paper, the question of when firms will focus on consumers, competitors and suppliers,

depends on the firm's *generic* strategy as the latter reflects the firm's strategic objectives and provides the modus operandi by which it achieves its goals.

Second, questions have been raised as to how the market orientation construct should be implemented within the firm (Day 1994; Narver, Slater and Tietje 1998). For instance, it has recently been argued that a customer orientation might indeed be detrimental to firms even in markets where differentiation is important but where the fast pace of technological change makes radical innovation the critical way to achieve this. For instance, Christensen (1993) and Christensen and Bower (1996) have argued that an excessive attention to current customers results in market myopia with the consequence that dominant firms in a particular industry fail to innovate and are left behind by upstarts who focus on new technological rather than current market opportunities. In a rebuttal, Slater and Narver (1998) argue that this negative view of customer and therefore market orientation stems from an incorrect view of market orientation. They argue that market-orientation entails a *long-term* commitment to understanding customer needs rather a short-term approach in which the firm responds to customers' expressed rather than *latent* wants (p. 1002). Thus they distinguish between a customer-led and a 'customer oriented' firm, arguing that the latter is more consistent with true market orientation and thus innovation (Slater and Narver 1998). In this paper, by focusing on Slater and Narver's (1998) definition of market orientation we hope to shed more light on its true relationship with new product activity and innovation.

New Product Activity. New products are the source of a firm's continued survival and growth in changing markets (Cardozo et. al 1993). Two aspects of new product activity are critical to firms: the development of new products and their actual introduction into the

marketplace (e.g. Urban, Weinberg and Hauser 1996; Zahra 1993). We include both these aspects into our conceptual framework.

Considerable research has studied how to develop and introduce new products successfully (e.g. Cooper and Kleinschmidt 1995; Montoya-Weiss and Calantone 1994). The main thrust of this research has therefore been prescriptive. From a descriptive viewpoint, however, a more interesting issue is the extent to which firms engage in new product development and introduction given a particular choice of business strategy and market orientation. Moreover, some research suggests that the amount of new product activity has a positive influence on the success of such activity within firms (Chaney and Devinney 1992). Further, it is important to understand how new product activity is embedded within the strategic choices and market orientation of firms as such knowledge will empower management to align implementation of new product activity with its strategy. Finally, an understanding of the drivers of innovation, of which both the type of business strategy and the firm's market orientation are major elements, is a critical success factor for creating and sustaining competitive advantage in the market (Hamel 1998). For instance, von Hippel's (1986) work on lead users suggests that customers are a vital source of new product ideas within the firm and that customer orientation is therefore of critical importance to firms. However, as we have discussed above, not all firms are likely to be customer oriented: only those whose business strategy requires them to be so will be, and this is bound to be reflected in such firms' new product activity.

FRAMEWORK AND HYPOTHESES

Based on the above we develop the following framework and hypotheses for the influence of business strategy on market orientation and new product activity (see Figure 1). First, following our adaptation of Porter's (1980) typology of business strategies, we consider the firm's relative

emphasis on three possible strategies: cost leadership, product differentiation and focus. Second, we hypothesize ways in which a firm's business strategy influences its market orientation, with a varying emphasis, on different strategies leading to a varying emphasis on and precedence given to customers, competitors and suppliers. Finally, we consider how a varying emphasis on these actors influences the extent to which the firm engages in two aspects of new product activity: new product development and introduction.

[Insert Figure 1 here]

Cost leadership and market orientation. The strategy of cost leadership requires aggressive cost control by management and is aimed at achieving an above-average return on investment within an industry. Porter (1980) points out that "achieving a low overall cost position requires a high relative market share or other advantages such as favorable access to raw materials" (p. 36). Therefore, an important way to achieve cost control is by focusing on the supply-side. For example, Just-in-Time delivery (Germain and Dröge 1997) requires a strong supplier orientation on the part of firms. Kalwani and Narayandas (1995) found that firms which had close relationships with their suppliers were able to lower the prices of purchased goods based on cost savings that the supplier achieved due to the long-term nature of the relationship. Alternatively, when the buying firm took a more transactional approach to supply chain management, cost leaders shopped for suppliers that could supply goods and materials in the most efficient manner.

In order to assess their relative cost (and therefore profitability) position in the marketplace, cost leaders must also continuously benchmark themselves against other firms. In order to do so, a strong competitor orientation is necessary (Day and Wensley 1988). Finally, firms that follow a cost leadership strategy typically target the broad, mass market in order to

achieve cost advantages due to economies of scale (see Crawford 1996, p. 89). For instance, Dess and Davis (1984) found that cost leadership positions often are achieved by refining existing products or models. Hence, customer orientation is less relevant for cost leaders than the other elements of the market orientation construct. In sum:

> Hla: A firm's relative emphasis on achieving cost leadership has no effect on its customer orientation;
> Hlb: The greater a firm's emphasis on achieving cost leadership, the greater its competitor orientation;
> Hlc: The greater a firm's emphasis on achieving cost leadership, the greater its supplier orientation.

Product differentiation and market orientation. The generic strategy of differentiation involves creating a market position that is perceived as being unique industrywide and is sustainable over the long run (Porter 1980). Such differentiation can be based upon design or brand image, technology, features, customer service, distribution and so forth. A differentiation strategy therefore requires a thorough understanding of customer needs and the market position of competitors (Porter 1996). Day and Wensley (1988) point out that the degree to which the firm is able to successfully utilize its positional advantage to realize a sustainable competitive advantage depends on its performance in the marketplace, and argue that these performance measures are both competitor and customer related. A firm's emphasis on product differentiation will, therefore, positively influence its customer and competitor orientation. However, a firm's emphasis on achieving product differentiation will, in general, have no influence on its supplier orientation. Specifically, in most industries, suppliers' products are often fully integrated within the manufacturer's final product, and thus suppliers have little influence on the market position the latter achieves vis-a-vis customers and competitors. An exception, however, may be the computer industry, where manufacturers position and differentiate themselves on, among other

things, the quality and brand name of ingredient suppliers (e.g., Intel inside)![6] As the systems integrator is more likely to differentiate the offering based on its integration capabilities rather than individual supplier characteristics, in general we expect no relationship between firms that pursue differentiation and their supplier orientation. In sum:

> H2a: The greater a firm's emphasis on achieving product differentiation, the greater its customer orientation;
> H2b: The greater a firm's emphasis on achieving product differentiation, the greater its competitor orientation;
> H2c: A firm's relative emphasis on achieving product differentiation has no effect on its supplier orientation.

Focus and market orientation. 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 more customer oriented. Further, since 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 less likely to be competitor oriented (Kotler 1997). Finally, a supplier orientation is less relevant to firms pursuing a focus strategy since sustainable success for such firms is more related to the choice of target market than to any advantages deriving from a supplier orientation (Kotler 1997). In sum:

> H3a: The greater a firm's emphasis on achieving focus, the greater its customer orientation;
> H3b: A firm's relative emphasis on achieving focus has no effect on its competitor orientation;
> H3c: A firm's relative emphasis on achieving focus has no effect on its supplier orientation.

---

[6] We thank an anonymous reviewer for pointing this out to us.

Customer orientation and new product activity. Firms may be either proactive or reactive in their approach to new product development and introduction (Urban and Star 1991). 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 (Cooper 1998; Montoya-Weiss and Calantone 1994). 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 large scale at a later stage. In sum:

H4: The greater a firm's customer orientation, the greater its new product activity.

Competitor orientation and new product activity. 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 (Urban and Star 1991). Accordingly, a relative emphasis on competitor orientation can influence new product activity in two possible ways: directly and indirectly.

Firms that adopt a me-too strategy constantly benchmark their product offerings vis-a-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 them 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. 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. In general, therefore:

H5a: The greater a firm's competitor orientation, the greater the direct influence of this orientation on 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-a-vis the target customer's needs (Urban and Star 1991). Instead of pure imitation, therefore, these firms perform some analysis of customer needs and preferences before developing and introducing the final imitative product. However, the customer research is secondary and only comes after the initial, more extensive competitior analysis. Such firms are therefore primarily competitor oriented and only customer oriented at a secondary level. Nevertheless, such a strategy suggests a possible alternative and indirect relationship between competitor orientation and new product activity. In sum, therefore:

H5b: The greater a firm's competitor orientation, the greater the indirect influence of this orientation on new product activity via a greater customer orientation.

Supplier orientation and new product activity. Supplier oriented firms achieve cost reductions through an emphasis on the supply-side. Hence the emphasis among such firms is on cost effective purchasing rather than on new product activity. Therefore, organizations that are supplier oriented are likely to be less involved in new product development and introduction.

H6: A firm's relative supplier orientation has no effect on its degree of new product activity.

METHOD

Data collection and sample selection. The study was conducted by means of a large-scale mailed survey. The questionnaire was pretested sequentially in three stages (cf. Churchill 1991). First, a questionnaire was developed using scales adopted from existing relevant research. Second, experts from academia and a 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 business firms. These managers were asked to fill out the questionnaire in the presence of the researcher. Ambiguities and unclear questions were identified and noted by the researcher. 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 this study. For instance, costs are easier to measure in manufacturing; therefore it is easier to identify and measure a cost leadership strategy among manufacturing rather than service firms. Also, new products have a clearer definition and are therefore easier to identify and measure among manufacturing rather 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. It was stressed that the respondent should be the key informant within the firm on 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, representing a 12.5% response rate. This percentage is consistent with response rates reported by other mail surveys in related research (Gatignon and Robertson 1989; Gatignon and Xuereb 1997).

We used 157 responses for the analyses, dropping incomplete or unusable questionnaires. In order to investigate potential non-response bias in the data, we used the method of comparing early and late responses with respect to the research variables (c. Gatignon and Xuereb 1997). The rationale behind this method is that late respondents show a greater resemblance to non-respondents than early respondents do. As no significant differences were found, we do not expect any serious response bias in our data. Respondents were distributed over a representative range of industries within the manufacturing sector (metal 19%; machinery 13%; furniture 11%; glass, ceramics etc. 9%; food and drinks 8%; automotive 7%; other 33%) and over different firm sizes (10-20 employees: 35%; 20-50: 23%; 50-100: 18%; 100-200: 13%; 200 employees or more: 12%). Most respondents were general managers (58%); other respondents included administrators/controllers (12%), marketing/sales managers (6%), and others (24%). The large percentage of general management respondents indicates that data were provided by those who were highly knowledgeable about the various issues addressed in the questionnaire.

Measures. The 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'. Appendix 1 shows sample items and the reliabilities of the scales used. Appendix 2 shows the correlations between the measurement variables.

Business strategy was primarily based on existing measures of cost leadership, differentiation and focus. The firm's relative disposition on each of these was assessed using 5-point Likert scales. This allowed a firm's business strategy to vary simultaneously on all three

strategies. Thus any firm could score equally high (or low) on any of the three dimensions of business strategy. Cost leadership was measured using a six-item scale based on Chandler and Hanks (1994), Porter (1980) and Narver and Slater (1990). Differentiation was measured using a four-item scale based on Homburg et al. (1999), Miller (1988) and Porter (1980). Focus was operationalized using a three-item scale based on Narver and Slater (1990) and Segev (1987). The scales include aspects related to the strategic profiles of firms as well as the resources and skills fundamental to a specific strategy in accordance with the resource-based view of the firm. The reliabilities (Appendix 1) were all satisfactory, with the possible exception of that for focus.

Market orientation was measured so as to distinguish between a customer orientation, a competitor orientation, and a supplier orientation (Narver and Slater 1990; Jaworski and Kohli 1996; Dyer 1996). Operationalizations were based on previous studies on the market orientation construct (i.e., Kohli, Jaworski and Kumar 1993; Narver and Slater 1990; Ruekert 1992). Customer orientation, competitor orientation and supplier orientation were operationalized using 6-item, 5-item and 3-item scales respectively. As with the measurement of business strategy, a firm's market orientation was allowed to vary simultaneously on all three dimensions. The reliabilities of all market orientation variables were above acceptable levels.

Finally, two different 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). Such 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. Further, as all respondents were from manufacturing firms operating in a business-to-business

context, we can safely assume that all respondents employed a relatively homogeneous definition of 'new product' in providing their responses.

Analysis. Following the approach proposed by Anderson and Gerbing (1988), a measurement model was first estimated by means of Confirmatory Factor Analysis (CFA) using EQS 5.1 (Bentler and Wu 1993). The model was composed of six correlated factors, i.e., three business strategy and three market orientation factors. Five pairs of errors were allowed to covary. Since these covariations were mainly within the same construct, allowing them to covary poses no theoretical problems. The measurement model was based on data from all fully completed questionnaires. This resulted in an effective sample of 157 respondents. Results of the CFA with standardized path coefficients and t-values are shown in Appendix 1. The model had a Comparative Fit Index (CFI) of 0.92, which is above the threshold of .90 for a satisfactory goodness of fit (Bentler 1992).

As the measurement model proved satisfactory, the measurement and research models were then estimated simultaneously (Fornell and Yi 1992). Overall goodness of fit as well as individual path estimates were examined (Bollen 1989). We estimated different models for each dependent variable of this study, i.e. new product development and new product introduction, respectively. However, as the results were very similar for both dependent measures, we combined them into one single measure (the average of both variables) to reflect 'new product activity".

We report the results of four different models (see Table 1). The first two "hypothesized" models test the hypothesized mediating role of market orientation in the influence of business strategy on new product activity. Of these models, one includes firm size as a moderating

[7] We thank an anonymous reviewer for suggesting this to us.

variable and the other does not. When the dependent variable in a model is the amount of new product activity, it is particularly necessary to control for firm size[8]. Comparing the results of the model with size to the model without size provides a test of whether firm size has a moderating effect on new product activity or not. The next two, "rival" models are meant to test the relative power and robustness of the "hypothesized" models. The first of these "rival" models is a "simple" model which tests the direct relationship between business strategy and new product activity without any mediating effects. The second "rival" model is a full model which tests both the hypothesized relationships as well as the direct effects of business strategy on new product activity. Firm size is included in both "rival" models as a control variable.

RESULTS

The results for the four models are reported in Table 1. The Comparative Fit Index (CFI) is a good indicator of the goodness of fit of structural equations models (Bentler 1990; Byrne 1994). All four models show a satisfactory fit as their CFI is well above the proposed threshold of .90 (Bentler 1992). The results also show that all individual path coefficients within the hypothesized model are significant. Overall, the results support the general notion that a firm's business strategy influences the relative emphasis it places on different aspects of market orientation, and that this relative emphasis in turn influences the extent of the firm's new product activity. We now discuss the results of the tests of individual hypotheses.

[Insert Table 1 here]

Cost leadership and market orientation. Cost leadership was positively related to both supplier and competitor orientation. This finding was robust given the consistency of the standardized estimates across both hypothesized models as well as the rival "full" model.

---

[8] We thank an anomymous reviewer for pointing this out to us.

Further, the rival "full" model indicated no significant relationship between cost leadership and customer orientation. Taken together, these findings support hypotheses Hla, Hlb and Hlc.

Product differentiation and market orientation. Differentiation was positively related to both customer and competitor orientation. This finding was robust given the consistency of the standardized estimates across both hypothesized models as well as the rival "full" model. Further, the standardized estimate of the relationship between differentiation and customer orientation was high in both hypothesized models reflecting the impact of a firm's emphasis on differentiation on its emphasis on customer orientation. Finally, the rival "full" model indicated no significant relationship between differentiation and supplier orientation. Taken together, these findings support hypotheses H2a, H2b, and H2c.

Focus and new product activity. In both hypothesized models as well as the rival "full" model, a focus strategy was negatively related to customer orientation. This was contrary to hypothesis H3a which posits a positive relationship. Consistent with our expectations, however, the rival "full" model shows no relationship between a focus strategy and competitor or supplier orientation thus supporting hypotheses H3b and H3c.

Customer orientation and new product activity. Both hypothesized models show a positive influence of customer orientation on new product activity. These results provide support for hypothesis H4.

Competitor orientation and new product activity. The hypothesized direct effect of competitor orientation on new product activity was not supported (H5a). Specifically, both hypothesized models as well as the rival "full" model indicated no significant relationship between competitor orientation and new product activity. However, the results did support the indirect effect of competitor orientation on new product activity (H5b). Specifically, both

hypothesized models as well as the rival "full" model show a positive influence of competitor orientation on customer orientation. This result taken in tandem with the positive influence of customer orientation on new product activity provides support for the fact that a greater emphasis on competitor orientation leads to greater new product activity via a greater emphasis on customer orientation.

Supplier orientation and new product activity. Finally, the results of the "rival" full model showed no effect of supplier orientation on new product activity, supporting hypothesis H6.

DISCUSSION AND IMPLICATIONS

The results of this study support the general claim that a firm's business strategy influences the nature and the extent of its market orientation. Firms that place a greater emphasis on a cost leadership strategy are more likely to be competitor and supplier oriented and not customer oriented. On the other hand, firms that place a greater emphasis on a differentiation strategy are more likely to be customer and competitor orientated rather than supplier oriented. Finally, a greater emphasis on a focus strategy leads to less emphasis on customer orientation, and does not lead to competitor or supplier orientation.

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, only indirectly leads to increased new product activity via increased customer orientation. And a supplier orientation has no influence on new product activity.

A surprising finding of the study was that, contrary to expectations, a focus strategy negatively influences customer orientation and hence new product activity. A study on successful

niche marketers by Hammermesh, Anderson and Harris (1978) suggests a possible explanation for this. 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-a-vis other firms in the industry precisely because they focus on a narrow market in combination with a focus on a specific technology. In such circumstances, marketing's role within the firm 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. For instance, Zahra (1993) found a positive relationship between a firm's market scope and the degree to which the firm develops and introduces new products to the market. This implies that firms with a relatively narrow market scope (i.e., a focus strategy) are less engaged in new product activity than firms with broad market scopes. However, these firms may still be considered innovative within their market niche because the few new products they develop and introduce might be truly radical at the time of their introduction. Another explanation for our finding may be due to 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. 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 scarcity of resources that niche firms face, the finding provides support for a resource-based view

of the firm (Grant 1991, Barney 1991) rather than the market orientation view that has been so influential in the recent marketing literature.

Another surprising finding was the lack of a significant direct influence of competitor orientation on new product activity. Specifically, we found that increased competitor orientation only results in increased new product activity indirectly via increased customer orientation. This finding 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. Instead, reactive strategies are likely to involve some amount of customer research subsequent to competitor intelligence, either to improve on the competitor's product vis-a-vis the target customers, or in order to test the me-too product on customers.

Taken together these findings have two important implications. First, they suggest that the study of market orientation as a composite construct might result in ignoring subtleties associated with 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. Not all dimensions of market orientation may be relevant to a particular firm. Depending on the firm's strategic orientation, it may focus on different aspects of the market before executing cross-functional, market related activities such as new product development and introduction. Nevertheless, a firm should be able to consistently and synergistically align its strategic choices with its external environment. Pursuing an orientation towards different aspects of the market without carefully embedding these activities within its overall strategic orientation could harm the firm's operations. Specifically, the firm's effectiveness could suffer from a mismatch between the focus of its generic strategy and its specific information collection and use activities, for example in the case of a cost leader that does not carefully monitor its supplier market.

Alternatively, a focus on short term profitability may result in myopia or even paranoia in the implementation of market orientation. For example, Armstrong and Collopy (1996) found a negative relationship between profitability and a strong competitor orientation. In highlighting the multidimensional nature of market orientation, therefore, our approach and findings show that various contingencies influence the desirability of a relative emphasis on different actors in the marketplace.

Second, our findings point to the critical role of customer orientation as a mediator between business strategy and new product activity. As both differentiation and focus strategies are directly related to customer orientation, and cost leadership is indirectly related to customer orientation via competitor 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 directly related to new product activity. Therefore, this study supports the prevailing view that customers are the key focus of any market oriented firm (Day 1994; Desphande, Farley and Webster 1993). Moreover, as Slater and Narver (1998) have argued, the customer orientation of a market-oriented firm would entail a ***long-term*** commitment to understanding customer needs rather than be restricted to a short-term philosophy in which the organization responds to customers' expressed wants (p. 1002). The latter approach is typical of a 'customer-led' rather than a 'customer oriented' firm (Slater and Narver 1998). Our study shows that such proactive, customer oriented approaches are indeed widespread among firms, in particular among those pursuing product differentiation.

LIMITATIONS AND FUTURE RESEARCH

The limitations of this study offer interesting opportunities for future research. First, given our finding of the central importance of customer orientation in the relationship between

business strategy and new product activity, a possible limitation of our study is the measure of customer orientation that we used which was based on the extant literature. Current scales are more sensitive to the *amount* of information collected by firms than the *nature* of the information collected. Specifically, the scales do not measure whether information collected is broad or deep, general or specific, based on informal or formal sources, and so on. Moreover, the nature of information collected may differ according to the business strategy pursued by the firm. While firms that follow a differentiation strategy may need to spend more resources on customer research and collect information on a broader range of issues relating to customer needs, firms that follow a focus strategy may need to collect more specific, fine-grained, in-depth information on customers in their target group. Based on a study of the influence of strategy and market orientation on small firm performance, Pelham (1999) concludes that "a strong market orientation may be an especially significant source of competitive advantage for small firms with limited resources to pursue a low cost-based or R&D spending-based strategies, but with greater capacity for customer contact and flexibility/adaptibility" (p. 40). Moreover, niche marketers may focus on more personal and informal channels of information in order to obtain the desired level of detail while product differentiators may focus on more formal and impersonal sources of information. Future research may shed more light on the nature of the customer and competitor orientation of firms by developing scales that are more sensitive to both the nature and the amount of information that firms collect. This would also help to distinguish between 'customer-led' and 'customer oriented' firms thus avoiding any possible confusion in the normative benefits to firms of being market oriented (see Slater and Narver, 1998).

Second, 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. This research would contribute to more thorough prescriptive recommendations to firms regarding the manner in which their strategy and market orientation should be developed to ensure the successful development and introduction of new products.

Third, in this study we used Porter's (1980) typology of generic strategies to examine the influence of business strategy on the extent of firms' new product activity. Although this framework has been widely used and tested in research it is nevertheless open to criticism. As pointed out before, firms may choose to pursue combinations of the strategies that Porter at least implicitly considers distinct. In the present study we allowed firms to indicate degrees to which they pursued different strategies, thus allowing for the possibility of flexibility in choosing a particular strategic orientation as well as allowing for the mixing of various pure strategies. However, the present study was limited to the three strategies distinguished by Porter (1980). In a study comparing Porter's framework with an extension to his typology suggested by Mintzberg (1988), Kotha and Vadlamani (1995) conclude "that more fine-grained strategies are required to capture the intended strategies of managers in the current environment" (p. 82). Future studies, especially those that set out to have prescriptive power rather than be of a descriptive nature,

should examine the influence of other, more fine-grained typologies of business strategy on market orientation and new product activity.

Finally, a. firm's business strategy may be only one of several possible contingencies influencing the relative importance to the firm of different aspects of market orientation in executing new product activities. Other contingencies might include the nature of the industry, the key success factors in the industry, and sources of competitive advantage within the industry. To the extent that a firm's strategy is an appropriate adaptation to environmental conditions within an industry, its business strategy is representative of these other contingencies. Nevertheless, this study is merely a first attempt at investigating such contingencies. Future research may be fruitfully directed at exploring the specific impact of other variables on the extent and nature of a firm's market orientation and its influences on market oriented activities such as new product development and introduction.

REFERENCES

Anderson, Paul (1982), 'Marketing, Strategic Planning, and the Theory of the Firm', *Journal of Marketing, 46* (Spring), 15-26.

Anderson, James C. and David W. Gerbing (1988), 'Structural Equation Modeling in Practice: A Review and Recommended Two-Step Approach', *Psychological Bulletin,* 103, 411-423.

Armstrong, J. Scott and Collopy, Fred (1996), 'Competitor Orientation: Effects of Objectives and Information on Managerial Decisions and Profitability', *Journal of Marketing Research, 33* (2), 188-199.

Athuene-Gima, Kwaku (1995), 'An Exploratory Analysis of the Impact of Market Orientation on New Product Performance', *Journal of Product Innovation Management,* 12,275.293.

Athuene-Gima, Kwaku (1996), 'Market Orientation and Innovation', *Journal of Business Research,* 25(2), 93-103.

Barney, J.B. (1991), 'Firm Resources and Sustained Competitive Advantage', *Journal of Management,* 17 (1), 99-120.

Bentler, P.M. (1990), "Fit Indexes, Lagrange Multipliers, constraint changes,. and incomplete data in structural models", *Multivariate Behavioral Research, 25,* 163-172.

Bentler, P.M. (1992), "On the fit of models to covariances and methodology to the *Bulletin", Psychological Bulletin,* 112, 400-404.

Bentler, P.M. and E.J.C. Wu (1993), *EQS/Windows User's Guide: Version* 4. Los Angeles: BMDP Statistical Software.

Bollen, K.A. (1989), *Structural equations with latent variables.* New York: John Wiley.

Booz, Allen & Hamilton (1982), New *Products Management for the 1980s*, *New* York: Booz, Allen & Hamilton.

Brush, Candida G. and Radha Chaganti (1998), 'Businesses Without Glamour? An Analysis of Resources on Performance by Size and Age in Small Service and Retail Firms', *Journal of Business Venturing,* 14,233.257.

Byrne, Barbara M. (1994), *Structural Equation Modeling with EQS and EQS/Windows*. Thousand Oaks: Sage Publications Inc.

Campbell-Hunt, Colin (2000), 'What have we learned about generic competitive strategy? A meta-analysis', *Strategic Management Journal, 21,* 127-154.

Cardozo, Richard, Karen McLaughlin, Brian Harmon, Paul Reynolds, and Brenda Miller (1993), 'Product-Market Choices and Growth of New Businesses', *Journal of Product Innovation Management,* 10, 33 1-340.

Chandler, G.N. and S.H. Hanks (1994), 'Market Attractiveness, Resource-Based Capabilities, Venture Strategies, and Venture Performance', *Journal of Business Venturing, 9, 331-349.*

Chaney, Paul K. and Timothy M. Devinney (1992), 'New Product Innovations and Stock Price Performance', *Journal of Business Finance & Accounting,* 19 (5), 677.

Christensen, Clayton M. (1993), "The rigid disk drive industry: A history of commercial and technological turbulence," *Business History Review,* 67, 4 (Winter), 531-89.

Christensen, C. M. and J. L. Bower (1996). 'Customer power, strategic investment and the failure of leading *firms,' Strategic management Journal,* 17, pp. 197-218.

Churchill, Gilbert Jr. (1991), *Marketing Research: Methodological Foundations,* Orlando: Dryden Press.

Cooper, R.G. (1998), 'Benchmarking New Product Performance: Results of the Best Practices Study', *European Management Journal,* 16 (1), 1-17.

Cooper, R.G. and E.J. Kleinschmidt (1995), 'Benchmarking the Firm's Critical Success Factors in New Product Development', *Journal of Product Innovation Management,* 12, 374-391.

Crawford, C. Merle (1996), 'Defining the Charter for Product Innovation' in: Susan Hart (Ed.) *New Product Development,* London: The Dryden Press

Day, George (1994), 'The Capabilities of Market-Driven Organization', *Journal of Marketing,* 58 (October), 37-52.

Day, George S. and Robin Wensley (1988), 'Assessing Advantage: A Framework for Diagnosing Competitive Superiority', *Journal of Marketing,* 52 (April), 1-20.

De Brentani, Ulrike (1989), 'Success and Failure in New Industrial Services', *Journal of Product Innovation Management,* 6,239.258.

Desphande, Rohit and John U. Farley (1996), 'Understanding Market Orientation: A Prospectively Designed Meta-Analysis of Three Market Orientation Scales', *Marketing Science Institute Working Paper Report* No. 96-125. Cambridge, MA: Marketing Science Institute.

Desphande, Rohit, John U. Farley and F.E. Webster, Jr (1993), 'Corporate Culture, Customer Orientation, and Innovativeness in Japanese Firms: A Quadrad Analysis', *Journal of Marketing,* 57 (January), 22-27.

Dess, G.G. and P.S. Davis (1984), 'Porter's generic strategies as determinants of strategic group membership and organizational performance', *Academy of Management Review, 27,467488.*

Dess, G.G., G.T. Lumpkin and J.G. Covin (1997), 'Entrepreneurial strategy making and firm performance: Tests of contingency and configurational models', ***Strategic Management Journal,*** **18** (9), **677-695.** .

Dröge, Comelia and Roger Calantone (1996), 'New Product Strategy, Structure, and Performance in Two Environments', *Industrial Marketing Management, 25,555.566.*

Dyer, Jeffrey H. (1996), 'Supplier Networks as a Source of Competitive Advantage: Evidence from the Auto Industry', *Strategic Management Journal,* 17, 272-291.

Dyer, B. and X.M. Song (1998), 'Innovation strategy and sanctioned conflict: A new edge in innovation? – Alternative explanation for reported findings', ***Journal** of Product Innovation Management,* **15** (6), 505-5 **19.**

Fomell, Claes and Youjae Yi (1992), 'Assumptions of the Two-Step Approach to Latent Variable Modeling', *Sociological Methods & Research, 20* (3), 291-320.

Gatignon, Hubert and Thomas S. Robertson (1989), "Technology Diffusion: An Empirical Test of Competitive Effects", *Journal of Marketing,* 53 (January), 35-49.

Gatignon, Hubert and Jean-March Xuereb (1997), 'Strategic Orientation of the Firm and New Product Performance', *Journal of Marketing Research, XXXIV* (February), 77-90.

Germain, R. and C. Dröge (1997), 'Effect of Just-in-Time Purchasing Relationships on Organizational Design, Purchasing Department Configuration, and Firm Performance', *Industrial Marketing Management, 26* (2), 115-125.

Grant, R. (1991), 'The Resource-Based Theory of the Firm', ***California Management Review,* 33** (3), **114-134.**

Greenley, G.E. (1995), 'Forms of Market Orientation in U.K. Companies', *Journal of Management Studies,* **32** (1), **47-66.**

Gruner, Kjell E. and Christian Homburg (2000), 'Does Customer Interaction Enhance New Product Success?', *Journal of Business Research,* **49, l-14.**

Hambrick, D. (1983), 'An empirical typology of mature industrial product environments', *Academy of Management Journal, 26,213.230.*

Hamel, Gary (1998), 'Strategy innovation and the quest for value', ***Sloan Management Review***, Winter, 7-14.

Hammermesh, R.G., M.J. Anderson and J.E. Harris (1978), 'Strategies for low market share business', *Harvard Business Review, 50* (3), 95-102.

Homburg, Christian, Harley Krohmer and John P. Workman, Jr. (1999), 'Strategic Concensus and Performance: The Role of Strategy Type and Market-Related Dynamism', ***Strategic Management Journal,*** 20, 339-357.

Homburg, Christian, John P. Workman, Jr. and Harley Krohmer (1999), 'Marketing's influence within the firm', ***Journal*** *of Marketing, 63* (April), 1-17.

Jaworski, Bernard J. and Ajay K. Kohli (1993), 'Market Orientation: Antecedents and Consequences', ***Journal of Marketing, 57*** (July), 53-70.

Jaworski, Bernard J. and Ajay K. Kohli (1996), 'Market Orientation: Review, Refinement, and Roadmap', ***Journal of Market Focused Management,*** 1 (2), 119-135.

Kalwani, Manohar U. and Narakesari Narayandas (1995), 'Long-Term Manufacturer-Supplier Relationships: Do They Pay Off for Supplier Firms?', ***Journal of Marketing,*** 59 (January), 1-16.

Kohli, Ajay K. and Bernard J. Jaworski (1990), 'Market Orientation: The Construct, Research Propositions, and Managerial Implications', ***Journal of Marketing,*** 54 (April), 1-1 8.

Kohli, Ajay K., Bernard J. Jaworski and Ajith Kumar (1993), 'MARKOR: A Measure of Market Orientation', ***Journal of Marketing Research,*** XXX (November), 467-477.

Kotha, Suresh and Bhatt L. Vadlamani (1995), 'Assessing generic strategies: An empirical investigation of two competing typologies in discrete manufacturing industries', ***Strategic Management Journal,*** 16, 75-83.

Kotler, Philip (1997), ***Marketing Management; Analysis, Planning, Implementation and Control,*** Englewood Cliffs, NJ: Prentice Hall.

Lukas, Bryan A. and O.C. Ferrell (2000), 'The Effect of Market Orientatioon on Product Innovation', ***Journal of the Academy of Marketing Science, 28*** (2), ***239-247.***

Maltz, E. and Ajay K. Kohli (1996), 'Market Intelligence Dissemination across Functional Boundaries', ***Journal of Marketing Research,*** 33(1), 47-61.

Manu, F.A. and V. Sriram (1996), 'Innovation, Marketing Strategy, Environment and Performance, ***Journal of Business Research, 35*** (1), 79-91

McGee, Jeffrey E., Michael J. Dowling and William L. Megginson (1995), 'Cooperative Strategy and New Venture Performance: The Role of Business Strategy and Management Experience', ***Strategic Management Journal, 16,565580.***

Miles, R.E. and ***C.C.*** Snow (1978), ***Organizational Strategy, Structure and Process. New*** York: McGraw-Hill.

Miller, D. (1988), 'Relating Porter's (1980) business strategies to environment and structure: Analysis and performance implications', ***Academy of Management Journal,*** 31 (2), 280-308.

Miller, D. and P.H. Friesen (1986), 'Porter's (1980) generic strategies and performance: An empirical examination with American data. Part 1: Testing Porter', *Organization Studies, 7 (I), 37-55.*

Mintzberg, H. (1973), 'Strategy Making in Three Modes', *California Management Review,* Winter, 44-53.

Mintzberg, H. (1988), 'Generic strategies: Toward a comprehensive framework', *Advances in Strategic Management,* Vol. 5, JAI Press, Greenwich, CT, 1-67.

Monoya-Weiss, M.M. and R.J. Calantone (1994), 'Determinants of New Product Performance: A Review and Meta Analysis', *Journal of Product Innovation Management,* 11, 397-417.

Narver, John C. and Stanley Slater (1990), 'The Effect of a Market Orientation on Business Profitability', *Journal of Marketing, 54* (4), 20-35.

Narver, John C., Stanley F. Slater and Brian Tietje (1998), 'Creating a Market Orientation', *Journal of Market Focused Management,* 2, 241-255.

Nobeoka, Kentaro and Michael A. Cusumano (1997), 'Multiproject Strategy and Sales Grwoth: The Benefits of Rapid Design Transfer in New Product Development', *Strategic Management Journal,* 18 (3), 169-186.

Pelham, Alfred M. (1999), 'Influence of environment, strategy, and market orientation on performance in small manufacturing firms', *Journal* ***of*** *Business Research,* 45, 33-46.

Porter, Michael E. (1980), *Competitive Strategy, New* York: The Free Press.

Porter, Michael E. (1996), 'What is Strategy?', *Harvard Business Review,* 74 (6), 61-80.

Robinson, R.B. and J.A. Pearce (1988), Planned patterns of strategic behavior and their relationship to business unit performance', *Strategic Management Journal, 9* (1), 43-60.

Ruekert, Robert W. (1992), 'Developing a Market Orientation: An Organizational Strategy Perspective', *International Journal of Research in Marketing., 9* (4), 225-245.

Segev, E. (1987), 'Strategy, Strategy Making, and Performance: An Empirical Investigation', *Management Science, 33* (2), *258-269.*

Shapiro, B.P. (1988), 'What the Hell is Market Oriented?', *Harvard Business Review,* November/December, 119-125.

Sinkula, James M. (1994), 'Market Information Processing and Organizational Learning', *Journal of Marketing,* 58 (January), 35-45.

Slater, Stanley F. (1996), 'The Challenge of Sustaining Competitive Advantage' , *Industrial Marketing Management,* 25(1), 79-86.

Slater, Stanley F. and John C. Narver (1994), 'Does Competitive Environment Moderate the Market Orientation-Performance Relationship?', ***Journal of Marketing,*** 58 (January), 46-55.

Slater, Stanley F. and John C. Narver (1995), 'Market Orientation and the Learning Organization', *Journal* ***of Marketing, 59*** (July), 63-74.

Slater, Stanley F. and John C. Narver (1998), 'Customer-Led and Market-Oriented: Let's not Confuse the Two', ***Strategic Management Journal,*** 19, 1001-1006.

Urban, Glen L., and Steven Star (1991), *Advanced Marketing Strategy,* Englewood-Cliffs: Prentice-Hall.

Urban, Glen L., and John R. Hauser (1993), *Design and Marketing of New Products* (2nd ed.) Englewood-Cliffs: Prentice-Hall.

Urban, Glen L., Bruce D. Weinberg and John R. Hauser (1996), 'Premarket Forecasting of Really-New Products', ***Journal of Marketing,*** 60 (January), 47-60.

von Hippel, Eric (1988), ***The Sources of Innovation.*** New York/Oxford: Oxford University Press.

Walker, Orville C. and Robert W. Ruekert (1987), 'Marketing's Role in the Implementation of Business Strategies: A Critical Review and Conceptual Framework', ***Journal of Marketing,*** 51 (July), 15-33.

Workman, John P. Jr (1993), 'Marketing's Limited Role in New Product Development in One Computer Systems Firm', ***Journal of Marketing Research,*** XXX (November), 405-42 1.

Zahra, Shaker A. (1993), 'New Product Innovation in Established Companies: Associations with Industry and Strategy Variables', ***Entrepreneurship Theory and Practice,*** Winter, 47-69.

Zahra, Shaker A. and Jeffrey G. Covin (1993), 'Business Strategy, Technology Policy and Firm Performance', ***Strategic Management Journal,*** 14, 45 1-478.

TABLE 1
Model Estimates for the Hypothesized Model (Testing for a Moderating Effect of Size) and Rival Models (Dependent Variable: New Product Activity)

	HYPOTHESIZED MODEL		**RIVAL MODELS**	
	Hypothesized model without 'size'	Hypothesized model with 'size'	Simple model	Full model
Path (Independent variables)	*Std. E.st.(t-value)*	*Std. Est.(t-value)*	*Std. Est.(t-value)*	*Std. Est.(t-value)*
The influence of business strategy on market orientations/NPA:				
Costleadership→ Customer Orientation	n.a.	n.a.	n.a.	.109 (1.331)
Costleadership→ Competitor Orientation	.336 (2.634)	.336 (2.634)	n.a.	.3 17 (2.549)
Costleadership→ Supplier Orientation	.292 (2.468)	.292 (2.468)	n.a.	.221 (1.814)
Costleadership→ New Product Activity	n.a.	n.a.	.036 (0.352)	-.075 (-0.224)
Differentiation+ Customer Orientation	.487 (4.68 1)	.487 (4.680)	n.a.	.484 (4.605)
Differentiation→ Competitor Orientation	.377 (3.371)	.377 (3.371) .	n.a.	.395 (3.564)
Differentiation+ Supplier Orientation	n.a.	n.a.	n.a.	.118 (1.089)
Differentiation+ New Product Activity	n.a.	n.a.	.102 (1.029)	-.212 (-0.152)
Focus+ Customer Orientation	-.417 (-3.019)	-.417 (-3.019)	n.a.	-.416 (-3.129)
Focus+ Competitor Orientation	n.a.	n.a.	n.a.	-.083 (-0.75 1)
Focus3 Supplier Orientation	n.a.	n.a.	n.a.	.004 (0.041)
Focus+ New Product Activity	n.a.	n.a.	-.287 (-2.692)	-.013 (-0.011)
Competitor Orientation+ Customer Or.	.538 (4.946)	.538 (4.946)	n.a.	.458 (4.132)
The influence of strategic orientation on new product activity:				
Customer Orientation+ NPA	.345 (2.110)	.344 (2.105)	n.a.	.583 (0.205)
Competitor Orientation+ NPA	-.166 (-1.022)	-.166 (-1.023)	n.a.	-.204 (-0.156)
Supplier Orientation+ NPA	n.a.	n.a.	n.a	.004 (0.049)
Firm Size → NPA	n.a.	.004 (0.046)	-.011 (-0.141)	-.001 (-0.007)
Goodness of fit:				
CFI	.935	.926	.955	.924
Chi-Square (df)	410.506 (336)	447.933 (363)	85.783 (73)	442.616 (355)
P-value chi-square	.00336	.00154	.14543	.00105

Note: All models were estimated using structural equations modeling with the same pre-conditions: one case was deleted as outlier (n=157); Cost Leadership Strategy and Differentiation Strategy were allowed to covary (correlation between Cost Leadership and Focus, and between Differentiation and Focus, respectively, were not significant); six pairs of errors were allowed to covary, similar as in the measurement model. The results show the standardized estimations of the path coefficients and their t-values.

APPENDIX 1

Operationalization, Reliabilities, and Standardized Path Coefficients of Scale Items

Scale (Cronbach alpha)/Items	*Standardized path coefficient*	*t-value*[9]
Business Strategy		
Differentiation (alpha=.65)		
1. Our organization is very capable at marketing	.738	n.a.
2. Our organization distinguishes itself from competition by the quality of its products	.219	2.518
3. In our organization, R&D activities are well coordinated with marketing activities	.806	8.191
4. Our organization likes to hire creative people	.465	5.207
Cost leadership (alpha=.69)		
1. Our organization emphasizes cost reduction in all its business activities	.441	n.a.
2. In our organization the production process changes all the time with the goal of constantly reducing production costs	.712	4.48 I
3. Our organization invests mainly in large projects to realize economies of scale	.563	4.150
4. Compared to competitors, our organization has specific skills which help to ease the production process	.523	4.007
5. In our organization, cost is the most important consideration in the choice of distribution system	.405	3.475
6. Our organization tries to force competitors out of the market by good cost control	[illegible]	3.67 1
Focus (alpha=.%)		
1. Our organization has one special, unique product at its core	.740	n.a.
2. Our organization attempts to specialize by concentrating on producing a limited number of products	.356	2.717
3. Our organization attempts to serve a specific niche in the market	.361	2.741
Market Orientation		
Customer orientation (alpha=.72)		
1. Our organization puts a lot of time into after sales service	.580	n.a.
2. Our organization is better than competitors in knowing the wants and needs of customers	.462	5.736
3. In our organization information about customers is regularly and systematically collected	.612	6.03 1
4. In our organization, there are specific plans for different segments of the market	.756	6.979
5. Quality improvement is based on suggestions made by customers	.370	4.094
6. Information about customers is used in our organization to make technological improvements	.461	4.942

[9] In the estimation of the measurement model, every first item for each construct was fixed (cf. Byrne 1994); therefore no t-values are available for these items.

Competitor orientation (alpha=.80)

1. In our organization, information about competitors is regularly and systematically collected	.698	n.a.
2. In our organization, potential future competitors are carefully monitored	.622	6.917
3. Employees in the sales and/or marketing department of our organization spend much time exchanging information on strategies of competitors	.690	7.593
4. During management meetings strengths and weaknesses of competitors are always on the agenda	.576	6.44 1
5. We react quickly to competitors' actions	.760	8.229

Supplier orientation (alpha=.74)

1. All people in the organization are aware of suppliers' expectations	.656	n.a.
2. Our organization puts a lot of effort into dealing with the complaints of suppliers	.848	7.906
3. Our organization responds with actions to the wishes of suppliers	.821	7.935

New Product Activity

New product development (alpha n.a.)

How many new products are currently being developed by your company? (number) n.a.

New product introduction (alpha n.a.)

How many new product introductions were made by your firm in the last five years? (number) n.a.

APPENDIX 2
Correlation Matrix Measurement Variables[10]

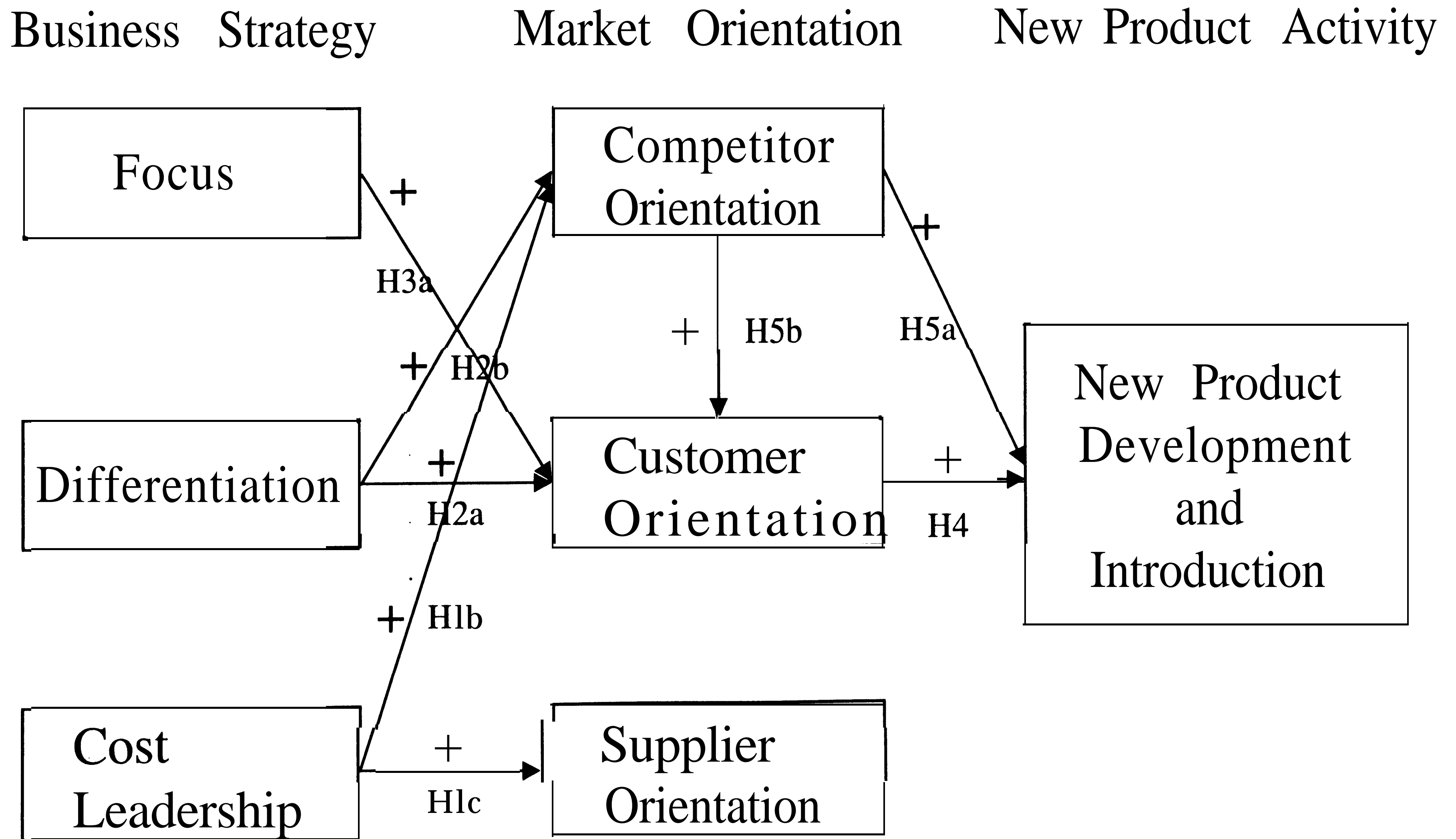
	Business Strategy Variables												
	Differentiation strategy				Cost leader strategy						Focus strategy		
	DIF1	DIF2	DIF3	DIF4	COL1	COL2	COL3	COL4	COL5	COL6	FOC1	FOC2	FOC3
DIF1	1.0												
DIF2	.203	1.0											
DIF3	.597	.173	1.0										
DIF4	.322	.073	.387	1.0									
COL1	.021	.027	.076	.103	1.0								
COL2	.220	.025	.188	.109	.362	1.0							
COL3	.100	-.015	.172	.088	.169	.472	1.0						
COL4	.279	.289	.151	.180	.121	.331	.256	1.0					
COL5	.136	.074	.125	.182	.341	.266	.199	.294	1.0				
COL6	.092	.051	.080	.196	.281	.269	.173	.338	.157	1.0			
FOC 1	-.108	.062	-.002	-.063	.048	-.070	-.066	.004	.017	.056	1.0		
FOC2	-.009	.116	.057	.046	.104	.129	.102	.116	.077	.211	.256	1.0	
FOC3	.020	.148	.035	-.089	.009	.047	-.005	-.064	-.097	.024	.267	.403	1.0
CUO1	.377	.168	.314	.282	.100	.175	.152	.150	-.059	.109	-.178	.069	.006
cuo2	.385	.371	.294	.230	-.009	.052	.102	.295	.094	.222	-.154	-.161	-.066
cuo3	.318	.100	.330	.162	.043	.137	.156	.186	.026	.094	-.210	-.049	-.030
cuo4	.479	.131	.509	.320	.138	.290	.349	.262	.085	.149	-.285	-.065	-.131
cuo5	.157	-.036	.179	.074	-.066	.055	.066	.071	-.008	-.024	-.250	-.014	-.062
CU06	.193	.009	.214	.142	-.039	.165	.242	.237	-.046	.138	-.176	-.064	-.173
coo1	.333	.123	.235	.182	.226	.216	.241	.195	.004	.102	-.206	.014	-.027
coo2	.303	.032	.272	.147	.187	.128	.116	.204	[illegible]	.138	-.009	-.000	.056
coo3	.227	.031	.213	.110	.147	.124	.229	.112	.068	.158	-.037	-.026	-.023
coo4	.235	.142	.290	.244	.061	.135	.140	.109	-.003	.236	.059	.134	-.045
coo5	.350	.136	.247	.212	.177	.244	.269	.250	.118	.180	-.074	.127	-.028
SUO1	.082	.044	.148	.139	.071	.159	.130	.164	.017	.149	-.012	.140	-.070
suo2	.028	.043	.054	.063	.007	.182	.033	.129	.165	.100	-.062	-.012	-.156
suo3	.099	.028	.117	.044	-.042	.155	.002	.096	.025	.138	.042	.013	-.049
NPD	.145	-.070	.184	.090	-.093	.016	.096	-.029	-.103	-.158	-.117	-.264	-.039
NPI	.061	-.051	.062	.062	-.124	-.008	[illegible]	-.055	-.091	-.098	-.099	-.239	-.121
SIZE	.113	.020	.160	.033	-.012	.090	.163	.093	.092	-.021	-.025	-.115	-.153

[10] Variable numbers refer to the corresponding items in Appendix 1.

APPENDIX 2 (Continued)
Correlation Matrix Measurement Variables

	Market Orientation Variables														NPA Variables and Size		
	Customer orientation						Competitor orientation					Supplier orientation					
	CUO1	CU02	CU03	CU04	CU05	CU06	COO1	COO2	COO3	COO4	COO5	SUO1	SU02	SU03	NPD	NPI	SIZE
CUO1	1.0																
cuo2	.462	1.0															
cuo3	.459 343	.398 . 248	.273														
cuo4				1.0													
cuo5	..187	.031	.234	301	1.0												
CU06	.197	.110	.236	'370	. 595	1.0											
coo1	. 389	. 241	. 479	.385	. 263	. 322	10 .										
coo2	. 360	. 155	. 380	.282	. 223	. 251	. 421	1.0									
coo3	. 395	. 149	. 373	. 343	. 264	. 318	. 482	. 456	10 .								
coo4	. 251	.172	. 334	307	. 094	. 294	.351	. 313	. 489	1.0							
coo5	. 362	[illegible]	. 426	'416	. 226	. 360	.240 542	. 500	. 489	.429	1.0						
SUO1	.164		.153	.124	[illegible]			.215	.118	,286	.262	1.0					
suo2	.097	. '002	.182	.042	.060 065	..091	.042	[illegible]									
suo3	-.005	-.003	.146	.055	-.005	.161	.095	.027 012	-.070	.159	.068	.5155	.700 1.0	1.0			
NPD	. 092	.090	.194	.252	.030	.021	.191	. 158	.116	.066	.113	-.024	. 003	.026	1.0		
NPI	-.018	.069	. 130	.202	.068 086	-.064 017	.145	-. 011	.217 071	.157 064	. 004	.058	. 020	. 053	.506	1.0	
SIZE	.107	.185	.098	.254				.169			,034		.045	-.002	.098	.004	1.0

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



Note: For the sake of simplicity, null effects are not noted