

## **The impacts of strategic orientation, marketing strategy and market research activities on new product development**

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### **Abstract**

*New product development is a critical management issue particularly in technology driven firms. In this paper the influences of strategic orientation, marketing strategy, and market research activities and the moderating role of environmental factors on new product development were investigated. The results shows that both strategic orientation and marketing strategy directly influence new product development process, while the market research activities show no significant relationship on new product development. Also, the environmental factors did not appear to moderate the relationship between strategic orientation, marketing strategy, market research activities on new product development in Kota Kinabalu manufacturing industry. The main implication of this finding is that the probability of success of new product development process will be high through effective strategic orientation implementation and aggressive marketing strategy implementation.*

*Key Words: New product development, strategic orientation, marketing strategy, market research activities*

### **Introduction**

New product development (NPD) is an inter-linked sequence of information processing tasks where knowledge of customer needs is translated into final product design (Meybodi, 2003). It is one of the most powerful but difficult activities in business (Clark and Wheelwright, 1995). Business managers and marketing academics alike agree that an essential element of an organization's long-term survival is success in NPD (Henry *et al.*, 1989). There are several studies concentrated on the factors determining the success and failure of a new product as well as market orientation on company performance (see Cooper, 1979; Maidique and Zirger, 1984; Song and Parry, 1997). In addition, Kwaku and Satyendra (1998) conducted studies on strategic orientation and business performance, on marketing orientation and company performance, and Kohli and Jaworski (1990) on the importance of market information in business decision. However, studies that investigate the roles of strategic orientation, marketing strategy, and market research activities on NPD are still lacking. Furthermore, the role of environmental factors to moderate those independent variables on NPD might be useful to consider.

Thus, this paper aims to determine the impacts of strategic orientation, marketing strategy, and market research activities on NPD among manufacturing companies in Kota Kinabalu, Sabah. The paper also considers the moderating effect of the environmental factors on those relationships.

## **Literature Review**

### ***New Product Development***

A new product is a good, service, or idea that is perceived by some potential customers as new (Kotler and Armstrong, 2005). New product can be regarded as original products, product improvements, product modifications, and new brands that the firm develops through its own research and development effort. According to David and Nigel (2001), new products and services introductions can be classified according to (1) newness to the market and (2) the extent of customer value created, resulting in the following types of new products:

- Transformational Innovation: products that are radically new and the value created is substantial. Examples include CNN News Channel, Automatic Teller Machines (ATM), and digital cameras.
- Substantial Innovation: Products that are significantly new and that can create important value for customers. Examples include Kimberly-Clark Huggies/Nappies and Diet Coke.
- Incremental Innovations: New products that provide improved performance or greater perceived value (or lower cost). An example is a new Coca-Cola flavour.

According to Ramaseshan *et al.* (2002), new products are essential to the survival and long-term growth of any firm. Success in NPD is a critical management issue particularly in technology-driven firms. Managers of new products have little guidance on how to improve or redirect their organization's external orientation towards their product target market. Copper (1979) argued that market knowledge and marketing proficiency play the critical role in the outcome of a new product. Projects which were strong on this dimension were those market-oriented activities that were undertaken proficiently (market assessment, market studies, test market, market launch). The firm had a sound understanding of needs and wants, price sensitivities, buyer behavior, market potential, and competition. Besides, sales force and distribution effort were strong and well targeted at launch. The obvious point needs reinforcement: the commercial viability of a new product rests in the hands of its potential customers. Therefore, a solid understanding of the marketplace together with an effective market launch effort is vital to the success of a new product.

Ramaseshan *et al.* (2002) mentioned that determinants of new product performance are interrelated and that the NPD process itself is central, namely the stages of initiation and implementation. The stage of initiation appears to be more important and it is strengthened by the factors such as customer orientation, cross-functional integration, and proficiency of the new product team.

Study by Wei and Morgan (2004) provided three implications of theoretical knowledge concerning firms' new product performance. Firstly, the important role played by supportiveness of organizational climate in determining a firm's market orientation is identified and supported empirically, which in turn explains significant variance in the success of new product in the Chinese firms. Secondly, the fieldwork interviews and its empirical result indicated the importance of the cultural contexts of the firm in explaining how firms' engagement in processing market information enables them to achieve superior performance for new product. Thirdly, their findings indicate that organizational climate is important in determining new product performance through its effect on a firm's market orientation behaviors.

Cooper and Kleinschmidt (2007) concluded their study with reduction of the new product performance at the business-unit level to major underlying dimensions – *profitability* and *impact* on the business. How *profitable* the total businesses' new product efforts included: whether the total initiative meets profits objectives; its profitability relative to spending; and the impact of the total effort on the business unit's profits. The impact of the total new product effort on the business included: sales percentage of new products achieved by the business unit; impact of the new products on both sales and profits of the unit; achieved rate of success; and the rating of the technical success.

### **Purposes of NPD**

Business firms spend large sums of money for NPD due to many important reasons. The reason for NPD is the most frequently cited by top business executives are corporate growth, diversification, and the quest for a competitive edge over rival business firms (Sachs and Benson, 1981).

There is another specific reason for a firm to develop new products: exploiting new opportunities. The demand for certain product attributes can suddenly become so intense that a firm is well-advised to create and introduce new marketplace for the new products in order to exploit this new opportunity and meet the strong customer demand (Hise, 1977). Product development is potentially very important for the purpose of the business development. Along with other forms of development such as market development, product positioning development and supply development, product development can contribute to the attainment of key business objectives. One of the most important objectives can be contributed to by organic product development, it is rarely explained how this can be made to occur (Bruce and Biemans, 1995).

### **The relationship between strategic orientation and NPD**

Strategic orientation is originally conceptualized from the market orientation, which was popularly used to measure firm performance in the management literature (e.g. Pulendran *et al.*, 2003; Matsuno and Mentzer, 2000; Han *et al.*, 1998). Then, it was extended into strategic orientation (Noble *et al.*, 2002; Voss and Voss, 2000) and focused specifically into customer orientation (Deshpandé *et al.*, 1993) and technological orientation (Stewart and McAuley, 2002). Previous work regarding the effect of the market orientation on business profitability by Narver and Slater (1990) found that market orientation was an important determinant of profitability for both commodity and non-commodity businesses. Market orientation and profitability of non-commodity business was found positively related to each other monotonically, whereas among the commodity businesses, a positive market orientation – profitability relationship exists among the businesses that are above median level in the market orientation. This has led to the understanding the possibility of strategic orientation to influence NPD because it also affect the business profitability.

On another standpoint, there was a positive impact for the level of market orientation on business performance. The quality of the marketing planning system on business performance is controlled. Furthermore, there were improvements exist in marketing planning's quality that would have an additional positive impact on the market orientation beyond expected from the main effects when the market turbulence and technology turbulence were high (Pulendran *et al.*, 2003). NPD, specifically the ability of a company to develop products that outperformed their competitors in the marketplace had been proved to benefit a firm in building its own competitive advantages (Kok, 1996). A study by Yew (2002) pointed out that market

orientation of business environment is an important determinant for the success of the NPD. Building an understanding of this relationship could help to achieve higher performance for the NPD that included overall business performance, firm's profitability, sales revenue, customer satisfaction and technical performance of the products. Langerak *et al.*, (2004) found that there was a positive relationship between market orientation with product advantage and to the proficiency in market testing, launch budgeting, launch strategy, and launch tactics of product development process. Thus, it is assumed that the strategic orientation also has positive influence on NPD process:

H1: There is a positive relationship between strategic orientation and NPD.

### **The relationship between marketing strategy and NPD**

Marketing strategy is one of the powerful tools to determine the product success. According to Shoham (1999), the study indicated that the adaptation of two strategy elements enhances export performance. Product adaptation (product design, quality, auxiliary services, breadth, and depth of lines) resulted in the improved performance in the current year. The findings for adaptation of advertising are stronger. Adaptation of advertising strategies (advertising budget size and process of determination, media allocation, and advertising content) enhance short and long term performance. Moreover, distribution and price standardization enhance performance, which is in contrast with the expectations. The more standardized the used pricing; currencies used, payment security, and credit terms, the more positive of the 5-year change in performance. Wind and Mahajan (1988) argue that during the NPD process, the execution of strategies affects the performance of NPD. If a company considers involving brand-new products in the new product market, it should adopt complete product development procedures. If it only introduces the original product to the market, it can skip process such as innovative production and concept evaluation. Recent study by Chung and Tsai (2007) found that companies with better implementation of development strategies of new products have better development performance of new products. So, the importance of strategies of marketing would give better impact on NPD. Thus, it is hypothesized that:

H2: There is a positive relationship between marketing strategy and NPD.

### **The relationship between market research activities and NPD**

In order to complete the product development process, proper market research activities has to be taken in order to ensure all information gathered suit with the new product produce. Previous research proved the need of market research activities on export performance and NPD performance. Copper (1979) argued that market knowledge and marketing proficiency play the critical role in the outcome of a new product. Projects which were strong on this dimension were those market-oriented activities that were undertaken proficiently (market assessment, market studies, test market, market launch). Hart and Tzoka (1999) has proposed the importance of market research in determining the effectiveness performance, they suggested that those who gather greater amounts of background or infrastructure information about the export markets, including the economic background, transport infrastructure, growth trends, and government aid, tend to exhibit higher export performance. It is measured by the ratios of export sales and profits versus overall sales and profits rather than using more specific information on which used to assess individual market potential or the need to adapt products to the local conditions. Turning to the market research information vehicles used, the more formal market research activities, which involve a more proactive approach to gain market information, is clearly related to higher ratios of both export sales and profits. The

study by Cooper and Kleinschmidt (1987) pointed out that in order to upgrade the performance of NPD, the company must first collect related market information, evaluate both internal and external environment and resources and plan development strategies of new products that match business goals. Thus, it is posited that market research activities influence NPD:

H3: There is a positive relationship between market research activities and NPD.

### **The moderating effects of environmental factors on strategic orientation, marketing strategy, market research activities and NPD**

In terms of the moderating effects of environmental factors influence the independent variables, few studies have exhibit different views (see Smith and Grimm, 1987 and Adis *et al.*, 2005). The study by Smith and Grimm (1987) focused on the environmental variation, which includes strategic change and firm performance of railroad deregulation. Their findings showed the important relationship between environmental variation and strategy. It means that most firms change their strategies and outperform those that did not with respect to environmental variation. Consistently, a study by Adis *et al.*, (2005) on export marketing performance found that certification of environmental factors appeared to moderate a few relationships between product and promotion adaptation, distribution strategy, design strategy and target market specification on export performance in Malaysian furniture industry. Thus, the researchers assume that it will moderate the influence of strategic orientation, marketing strategy and market research activities on NPD.

According to Yew (2002), a firm must develop and sustain competitive advantage in order to achieve superior business performance. In that study, the author concluded that market orientation of business environment is an important determinant for the success of NPD. Building an understanding on this relationship could help achieve higher performance for the NPD that includes overall business performance, firm's profitability, sales revenue, customer satisfaction and technical performance of the products. Therefore, it is hypothesized that:

H4a: Environmental factors moderate the relationship between strategic orientation and NPD.

H4b: Environmental factors moderate the relationship between marketing strategy and NPD.

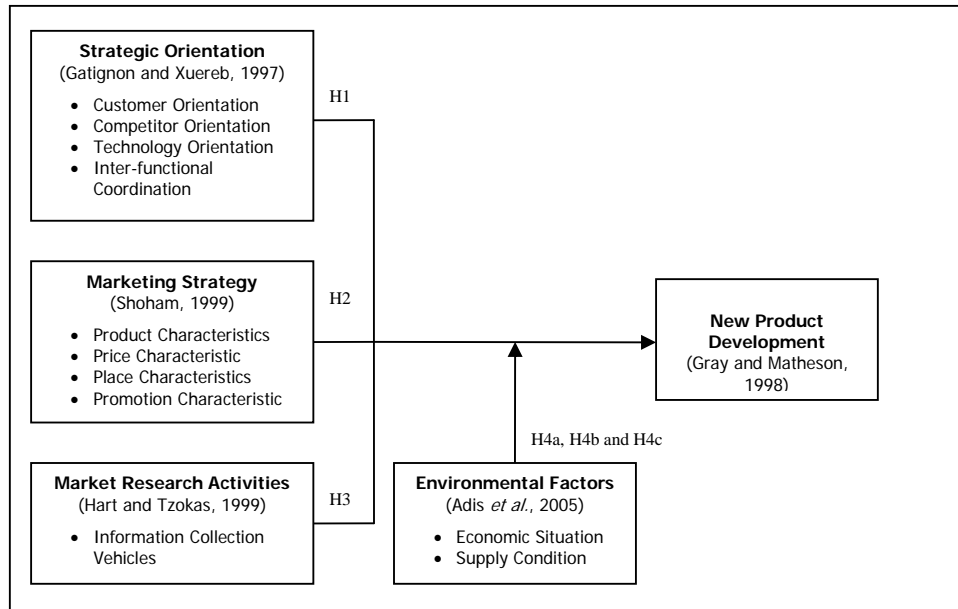
H4c: Environmental factors moderate the relationship between market research activities and NPD.

### **Methodology**

The quantitative approach was chosen as the research design. Hypotheses testing were used to test the relationships that exist among variables. The dependent variable or measured outcome in this research is NPD whereas the independent or presumed cause variables are strategic orientation (SO), marketing strategy (MS), and market research activities (MRA). Lastly, the moderating variable is environmental factors (EF). The research framework is shown in Figure 1.

A set of questionnaires, which is adapted based on past research, was used to measure these variables. All variables were examined individually to determine whether significant relationship exist between them. The data was collected from marketing managers, operation

managers and those managers who have been involved in NPD. The unit of analysis in this study is the manufacturing companies in Kota Kinabalu, Sabah.



**Figure 1: A framework on the impact of strategic orientation, marketing strategy and market research activities on NPD**

The research focuses on manufacturing companies that produce either consumer products or industrial products. The list is obtained from Malaysia Yellow Pages 2006. Due to the financial and time constraints, only manufacturing companies located in Kota Kinabalu were chosen as the population for this study. The target population is located in Kota Kinabalu, Sabah with the total number of 150 manufacturing companies. Those areas are Inanam, Menggatal, Penampang and Tuaran.

The survey questionnaire were divided into six parts which comprised of questions regarding strategic orientation, marketing strategy, market research activities, NPD, company profile, and demographic information. The measurement used was categorized into several divisions.

Strategic orientation is measured using seventeen items instruments of Narver and Slater (1990) and Gatignon Xuereb's (1997). This instrument consists of customer orientation, competitor orientation, technological orientation, and inter-functional coordination. The five-point likert scales ranging from 1 (not at all) to 5 (to an extreme extent) is also being used. Marketing strategy is measured by 16 items based on five-point likert scales (ranging from 1=not use at all to 5=use to a great extent). Strategies are divided into 4P's elements, which are product, promotion, distribution and price. Product characteristics elements are product design, product quality, service quality, number of product lines, and number of item in the product lines. For the promotion characteristics, it is operationalized using the size of advertising budget, budget setting process, media allocation and advertising and promotion contents. For the third element, which is distribution characteristics, physical distribution, type of distribution channel, and sales force management are used to assess the extent of

standardization of the distribution component. Finally, price characteristics are operationalized by price, currency used, payment security and credit terms. Market research activities are measured using Ismail's (2003) by means of a five-point likert scale, (ranging from 1=not used at all to 5=use to a great extent.) A total of ten information collection vehicles are identified in the element of market research activities. Environmental factors instrument is measured using economic trend and supply conditions of Adis *et al.*, (2005). The five-point likert scales range from 1 (None) to 5 (Substantial). For NPD, there are 30 questions adopted from Gray and Matheson (1998) measurement consists of sales, NPD objectives and expectations, NPD program, degree of proficiency and NPD in industry in overall.

### **Data Collection Method**

The primary data in this study was collected through interviews with marketing managers, operating managers, general managers, or managing directors with experiences in product development. The data collection was conducted within one-month period using personal interviews. This study mainly depended on personal interviews because it gave higher response rate compared to other methods. Telephone calls explaining the purpose of the study were made to relevant departments of each organization before any arrangements of appointment being made. About 95 sets of questionnaires were distributed to the manufacturing companies. Out of this, only 88 sets of questionnaires were collected and 80 were usable for further analysis which means that this study has covered 53% among 150 manufacturing companies in Kota Kinabalu. Secondary data in the form of public records, journals, books, master's theses, and magazines that reflect the area of investigation were also being extensively collected and reviewed for this study.

### **Data analysis**

Data was analyzed using the Statistical Package for Social Sciences (SPSS) version 15.0 for Windows. First, the reliability analysis was conducted on the items of the questionnaire using the Alpha model. Second, descriptive analysis, such as frequencies, means, standards deviation, and mode and median was utilized to present the characteristics of the sample. Third, frequency analysis was utilized to determine the strategic orientation, marketing strategy, market research activity, and NPD adopted. Finally, multiple regression analysis was conducted to examine the relationship between the NPD and the factors of strategic orientation, marketing strategy, market research activities, and the moderating effects of environmental factor.

### **Results**

There are a total of 14 types of product category out of the 16 types listed in Table 2 that are involved in this study. Majority of the manufacturing companies is from food and beverage industry (21.3%) followed by furniture and wood related products (15.0%); construction and building materials (12.5%); other products (10.0%); machinery and engineering products (7.5%); automotive and component parts (6.3%); plastic products (6.3%); household products and appliances (5.0%); agricultural products (3.8%); pharmaceutical, medical, cosmetic and toiletries (3.8%); textiles and wearing apparel (2.5%); electric and electronic products (2.5%); iron and steel products (2.5%); and lastly rubber products (1.3%).

**Table 2: Product Category**

<b>Product Category</b>	<b>Frequency</b>
Agricultural Products	3
Construction and Building Materials	10
Food and Beverage	17
Household Products and Appliances	4
Textiles and Wearing Apparel	2
Electrical and Electronic Products	2
Rubber Products	1
Iron and Steel Products	2
Automotive and Component Parts	5
Chemicals	0
Furniture and Wood Related Products	12
Machinery and Engineering Products	6
Pharmaceutical, Medical, Cosmetics and Toiletries	3
Gas and Petrol Products	0
Plastic Products	5
Others	8
<b>Total</b>	<b>80</b>

The majority type of market the manufacturing companies involved in is fast moving consumer goods (33.8%) followed by consumer durable goods (26.3%); capital industrial equipment (21.3%); repeat industrial goods (16.3%); and lastly other types of market (2.5%). In terms of companies' current position in their main market, majority of the manufacturing companies follow or challenge the market leaders (52.5%). There are 33.8% which are niche market and 13.8% which are market leader. The respondents interviewed included Marketing Managers (36.3%), followed by Managing Directors (23.8%), Operation Managers (17.5%), General Manager (16.3%), Marketing Executives (5.0%) and Proprietor (1.3%).

Most of the companies might have different main objective depending on their product, but majority of them prefer to grow in the existing market (55.0%), while 20.0% prefer to expand to new market, 12.5% to maintain position or prevent decline, 11.3% to survive and 1.3% other objectives (see Table 3).

**Table 3: Company's Main Objective**

<b>Main Objective</b>	<b>Frequency</b>	<b>Percentage (%)</b>
To Survive	9	11.3
To Grow in Existing Market	44	55.0
To Maintain Position/Prevent Decline	10	12.5
To Expand into New Market	16	20.0
Others	1	1.3
<b>Total</b>	<b>80</b>	<b>100.0</b>

Majority of the manufacturing companies has 100 or less fulltime employees (58.8%), followed by those with 101 to 300 person (30.0%), 301 to 500 person (7.5%), and others with more than 1000 fulltime employees (3.8%) (see Table 4).



**Table 4: Total Numbers of Fulltime Employees**

<b>Fulltime Employee</b>	<b>Frequency</b>	<b>Percentage (%)</b>
100 or less	47	58.8
101 - 300	24	30.0
301 - 500	6	7.5
501 - 700	0	0.0
701 - 1000	0	0.0
More Than 1000	3	3.8
<b>Total</b>	<b>80</b>	<b>100.0</b>

**Multiple regression analysis**

The R-Square of Model Summary achieved by manufacturing company is 0.567, which is more than 0.5. This means that the independent variables (strategic orientation, marketing strategy, and market research activity) have a high level of significant to dependent variable (NPD). The significant value achieved by manufacturing company in ANOVA is 0.000, which is less than 0.05, which means, the model ANOVA (  $Y = a + bx$  ) is appropriate for this research study.

Based on Table 5,  $R^2$  0.567 indicates that 56.7% of the variance in the dependent variable is explained by the model. The results show that only strategic orientation and marketing strategy are significant at  $\alpha = 0.05$  level. It means that there is a significant relationship between strategic orientation and marketing strategy on NPD while market research activities are not statistically significant to NPD. By looking at the  $\beta$  coefficients, strategic orientation ( $\beta = 0.249$ ), marketing strategy ( $\beta = 0.416$ ), and market research activities ( $\beta = 0.185$ ), proved that positive relationship exists on NPD.

**Table 5: Regression analyses without environmental factors**

<b>Independent variables</b>	<b>Beta coefficients</b>
Strategic Orientation	.249*
Marketing Strategy	.416**
Market Research Activies	.185
<i>n</i>	80
<i>F</i>	33.202**
<i>R</i> <sup>2</sup>	.567

\* $p < .05$ ; \*\* $p < .01$

Based on Table 6,  $R^2$  0.56 indicates that 56.1% of the variance in the dependent variable is explained by the model. The variables will only have significant level at  $\alpha < 0.05$ . This means that both moderating variable, environmental factor will not moderate the relationship among independent variables and dependent variable. By observing the Beta coefficient, environmental factors ( $\beta = -0.544$ ) has shown the negative relationship on NPD. The researchers excluded independent variable of market research activities in this analysis because Table 6 showed that this variable is not statistically significant to NPD.

**Table 6: Hierarchical regression analyses with environmental factors**

Independent variables	Beta coefficients
Strategic Orientation	.291*
Marketing Strategy	.535**
<i>n</i>	80
<i>F</i>	47.963**
<i>R</i> <sup>2</sup>	.555
Strategic Orientation	.284*
Marketing Strategy	.534**
Environmental factors	.037
<i>n</i>	80
<i>F</i>	31.726**
<i>R</i> <sup>2</sup>	.556
Strategic Orientation	.281
Marketing Strategy	.018
Environmental factors	-.544
SO X EF	-.027
MS X EF	.859
<i>n</i>	80
<i>F</i>	18.896**
<i>R</i> <sup>2</sup>	.561

\* $p < .05$ ; \*\* $p < .01$

### Discussions

The relationship between strategic orientation and NPD is found to be significant. This indicates that strategic orientation (customer orientation, competitor orientation, technological orientation, and inter-functional coordination) influences the performance in the product development. Thus, this result provides support to Hypotheses 1. It is true that once the company is able to fulfill customers' needs, better competitive advantage, used advance technology compared to the competitors, and good level of inter-functional coordination, it will certainly perform well in their businesses. This statement is supported by the study of Pulendran *et al.* (2003) in measuring firms' performance and it showed that positive and significant association between market orientation and business performance exists if the quality of market planning system on business performance is controlled.

Most of the manufacturing companies understand the importance of strategic orientation. Manufacturers produce goods according to the customers' satisfaction and needs in order to survive and gain more market share in the industry. Marketing is not limited to the old sense of making sales, but in the new sense of satisfying customer needs. The task of the marketers include understanding customers' needs; develop products that provide superior value; pricing, distributing and promoting them effectively (Kotler and Armstrong, 2005). Moreover

study by Ramaseshan *et al.* (2002), shows that there is no significant difference in the level of market orientation and performance of new products whether there are consumer or industrial products. On the other hand, manufacturers of consumer or industrial goods need to continuously improve their usage of technology in order to increase the performance of product development. As mentioned by Ramaseshan *et al.* (2002), the success of NPD is a critical management issue particularly in the technology-driven firms.

The relationship between marketing strategy and NPD were found to be significant. It indicates that marketing strategy (product characteristics, promotion characteristics, distribution characteristics, and pricing characteristics) influences the performance in product development, thus, hypothesis 2 is supported. Marketing strategy is significant to NPD because manufacturing company produce goods according to customer's requirements, with high level of product design and quality. This finding is consistent with the study of Porter (1973) which suggested that increasing similarities drive firms to standardize in order to achieve economics of scale in production, distribution, logistics, and promotions. Porter also suggested that firms in different industry segments would apply different marketing strategy to gain competitive advantage, and vary across different industries.

For promotion, company is able to know whether customers accepted their products. Information can be gathered during promotion for further improvement of company's products in the future. Therefore, the importance of marketing strategy elements in influencing the performance of new products is very crucial. This contention is supported by Ramaseshan *et al.* (2002) which suggested that the formulation of appropriate marketing strategies is very critical for the successful market and project performance of new products.

The finding further reveals that there is no significant relationship between market research activities and NPD. It indicates that by increasing the usage of the market research activities, it will not influence product development positively. This might be due to manufacturing companies are more dependent on marketing strategy especially product characteristics in order to generate better result for their product development. This finding is consistent with Baker and Zeid (1982) who concluded that influence of market research activities on product development was conflicting from one another. Market research is a more complete process rather than just simply gathering market data. Most NPD teams will use some form of market information in the product development and design process—survey results, market trends, and focus group testing (Ramaseshan *et al.*, 2002).

Through interview, researcher found that most of the manufacturing companies do not set up a research and development (R&D) department. And the responsibility was left to other departments, such as marketing or operating department. The reason was due to limited capital, to set up such department.

#### **Environmental factors moderating the relationship on the NPD and:**

##### **(a) Strategic Orientation**

This study shows that environmental factors (economic situation and supply condition) do not appear to moderate the relationship between strategic orientation and NPD (see Table 6). This indicates that the greater the influence of economic situation and supply condition of environmental factors on strategic orientation, the less influence they will be on product development. Therefore, hypotheses 4(a) is rejected. Baldauf *et al.* (2000) mentioned that the effects of the environmental dimensions on organizations are relatively unimportant by the managers. The external factors will not influence the management systems and commitment to

the product development. Any negative forms of environmental factors will not give any impact on the management planning. Furthermore, Kohli and Jaworski (1990) argued that a market orientation may not be strongly related to business performance under condition of booming economics.

#### **(b) Marketing Strategy**

This study shows that environmental factors do not appear to moderate the relationship between marketing strategy and NPD. This indicates that the greater the influence of economic situation and supply condition of environmental factors on marketing strategy, the more negative influence it will be on product development. Therefore, hypotheses 4(b) is rejected. The above finding contrasts the study of Samiee and Kendall (1992) as they found no performance difference between firms guided by standardized strategy or by adaptation strategy.

#### **(c) Market Research Activities**

This study also shows that environmental factors do not appear to moderate the relationship between market research activities and NPD. The independence variable of market research activities (hypotheses 3 and 4 (c)) are rejected because it does not contribute any relevant result to the study.

#### **Conclusion and suggestions for future research**

In conclusion, this study aims to find the impact of strategic orientation, marketing strategy, and market research activities on NPD. It also examines the moderating effect of environmental factors (economic situation and supply condition) on the relationship between strategic orientation, marketing strategy, and market research activities towards NPD. Finding shows that variables of strategic orientation and marketing strategy have significant influences on NPD while variables of market research activities have no significant influences on NPD. Furthermore, the moderating effect of environmental factors does not moderate the relationship of strategic orientation, marketing strategy, and market research activities towards NPD. This study enhances product development literature regarding factors affecting the process of development. Future researchers should examine the impact of strategic orientation, marketing strategy and market research activities with modification on the moderating effects according to the area of study on NPD which may provide better understanding and generalization of product development knowledge.

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