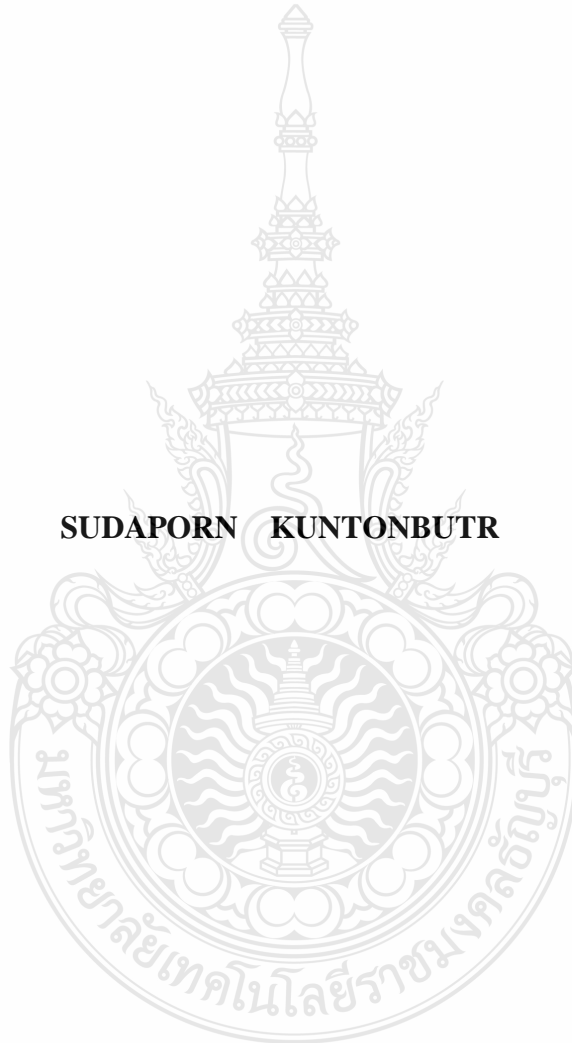


**THE RELATIONSHIP BETWEEN MARKET ORIENTATION AND
BUSINESS PERFORMANCE THROUGH INNOVATION IN AUTO
PARTS AND ACCESSORY**

SUDAPORN KUNTONBUTR



**A DISSERTATION SUBMITTED IN PARTIAL FULFILLMENT
OF THE REQUIREMENTS FOR THE DEGREE OF DOCTOR OF
PROGRAM IN BUSINESS ADMINISTRATION RAJAMANGALA UNIVERSITY OF
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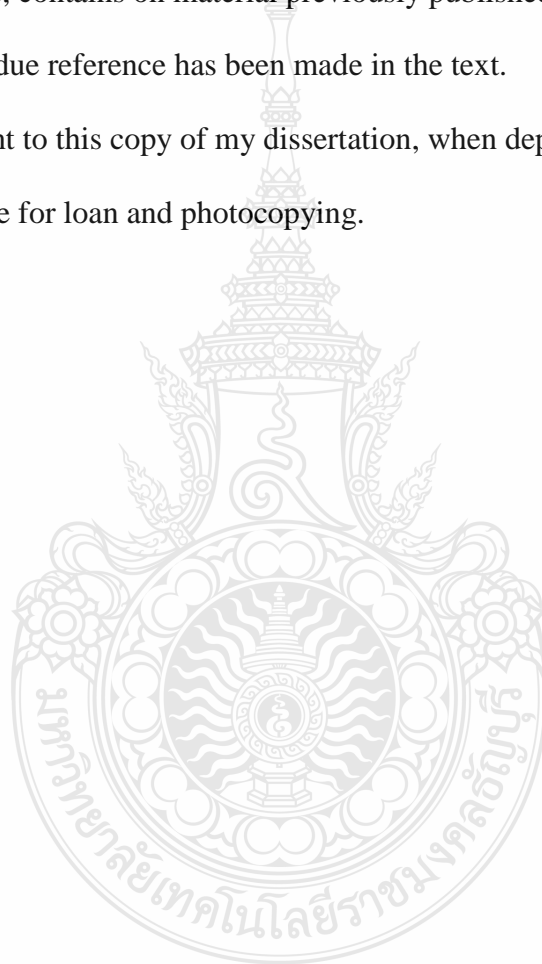
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Declaration

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I give consent to this copy of my dissertation, when deposited in the university library, being available for loan and photocopying.

Sudaporn Kuntobutr



Dissertation Title	The Relationship between Market Orientation and Business Performance through Innovation in Auto Parts and Accessories
Name - Surname	Ms. Sudaporn Kuntontbutr
Program	Business Administration
Dissertation Advisor	Dr. Pirayut Pattanayanon
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ABSTRACT

The purpose of this study is to investigate the relationship between market orientation and business performance through innovations that include product innovation and process innovation. Auto parts and accessories companies in Thailand were used as sample for this investigation. The independent variable was market orientation that was expected to have an impact on the performance of business firms. The component of the market orientation composed of customer orientation, competitor orientation and interfunctional coordination. The dependent variable was business performance measured by return on assets (ROA). In addition, the innovations were examined as mediator. The subjects are the auto parts and accessory firms that were conducted under the sampling frame of Thai Auto Parts Manufactures Association (TAPMA). Survey research with structured questionnaire was used as the key instrument in collecting the data.

The structural equation modeling (SEM) was assigned test the hypotheses. The sample size in this study requires the minimum sample size of 200. In addition, there are measurement model and structural model. The measurement model was assessed by using Confirmatory Factor Analysis (CFA) to purify each latent construct and measurement model of each exogenous and endogenous constructs. Composite reliability was applied to ensure reliability by examined convergence and discriminant validity of constructs. The GFI (Goodness of Fit Index), RMSEA (Root Mean Square Error of Approximation), CFI (Comparative Fit Index), IFI (Incremental Fit Index), and TLI (Tucker-Lewis Index) were employed to assess the overall model fit. The result found that competitor orientation, and interfunctional coordination has an effect on product innovation. Moreover, interfunctional coordination has an effect on process innovation, and return on asset. This indicates that within- firm coordination has crucial to firms' performances.

For the implication for practice, firms should support interfunctional coordination that members of different functional areas of an organization communicate and work together for the creation of value to target buyers. Since, the result of this study is obvious that interfunctional coordination is important to business performance and innovation. Therefore, firms have a complete managerial system that can support innovation, then in long term, they may have better profitability. Taken future research into consideration, this study finds that it may benefit other researchers in concerning market orientation, innovation, and business performance. Innovation should be considered as a mediator in the long time since innovation needs time to effect on business performance. In addition, market orientation is one of the factors that support innovations, to concentrate on a market

driven approach alone is not appropriate for explaining innovation. Therefore, future research should apply more factors such as technology based accompanying with market orientation.

Keywords: Marketing Management, Market Orientation, Innovation, Business Performance, Marketing Strategy



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CHAPTER 1

INTRODUCTION

Background of Study

After a few waves of the economic crisis, with the most recent one being in 1997, the Thai economy faced difficulties that had an impact on business, especially large enterprises. Thailand's export growth had slowed down. The crisis was attributed to the workforces of large enterprises being drastically reduced. As a result, a number of Thai business people have changed their paradigm to work for firms that are smaller or medium sized enterprises. In reality, those firms are crucial for the majority of the labor force and have been critical to economic development in Thailand for more than two decades. SME entrepreneurs occupied 95 percent and have employed more than 50 percent of the total labor force in Thai business (Institute for small and medium enterprises development, 2009). Moreover, its information also indicated that SME entrepreneurs were a major contributor to employment, income, and business development in Thailand. However, the domestic entrepreneurs in Thailand still have low efficiency concerning management and production capability (Institute for small and medium enterprises development, 2009). As a result, the Thai government has both attended and supported managerial performances of the domestic entrepreneurs to enhance mostly small or medium enterprises. That is

why it is crucial to study how Thailand can develop business performances of domestic entrepreneurs.

Currently, the Thai economy has turned to depend upon the industrial sector rather than the agricultural sector. The Automotive industry has played an important role for the industrial sector because Thailand has been a production base for multinational companies from Japan, Europe, and America in producing automobiles for the global market. According to the production of automobiles in Thailand, the data indicates growth from 2006 to 2010, even though in some years production decreased. The first reason that made the production units of the automobile decrease comes from the political conflicts and macro-economics of Thailand. The second reason comes from the global economic crisis in 2009, particularly in United States, and it affected unit of export in the automotive assembly firms in Thailand, since the United States is an important customer of the sedan and pickup truck. In addition, this country has both General Motors and Ford Motor Company conducting their foreign direct investment for automotive assembly in Thailand. However, it is obvious that in a long period of time, production growth will become steady because the population in many countries besides Thailand has become technology based. Therefore, their people need both sedans and pickup trucks for works and family. There are many people that are expected to become customers of those automotive assembly firms. Thus, the growth of demand of the automobile will increase along with both global and country economic growth. The information below indicates total growth of automobiles assembled in Thailand for both domestic and export demands.

Table 1.1 Production of the automobile in Thailand

Year	Production			% growth
	Passenger car	Commercial car	Total	
2006	298,819	867,582	1,166,401	4.86
2007	315,444	948,388	1,263,832	8.35
2008	401,309	974,642	1,375,951	8.87
2009	313,442	670,734	984,176	-28.47
2010	554,387	1,066,759	1,621,146	64.72

Sources: Thai Automotive Industry Association

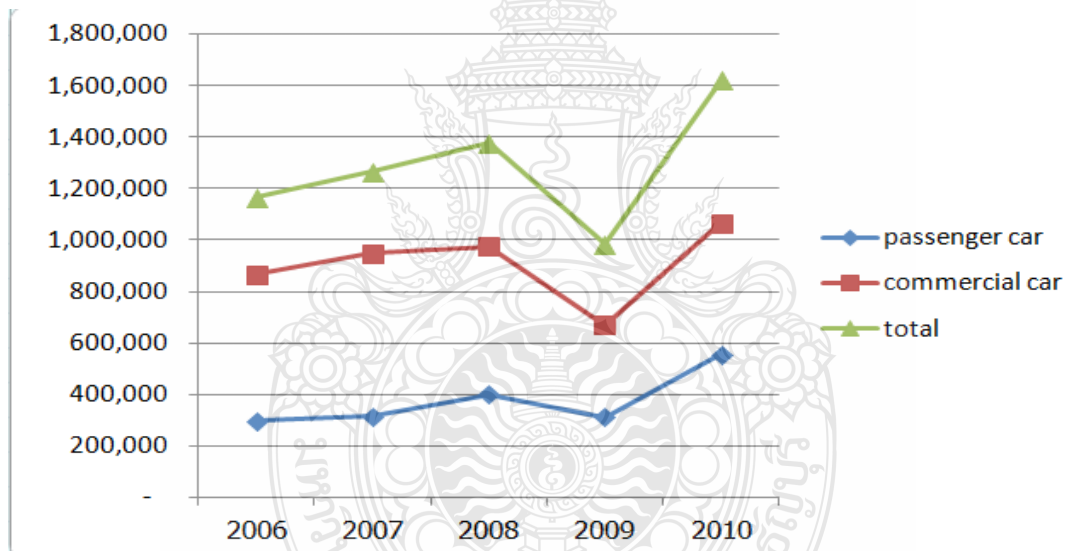


Figure 1.1 Production of the automobile in Thailand

From the data above, it indicates the table and the graph of production of the automobile in Thailand in 2006-2010. It is crucial that the growth of automobile production in Thailand will have a relationship with the growth of automotive parts and the accessory industry. The growth of automobile production in Thailand and abroad will be a positive relationship with the growth

of automotives parts firms. Since, Thailand has become an automobile production base for a long time and has made many auto part firms in Thailand become both domestic and export producers. This indicates clearly the importance of the automobile parts and accessories in Thailand in terms of their development concerning the relationship between their market orientation, innovation, and performance of the firms. Auto parts and accessory firms in Thailand have been crucial for the Thai economy in terms of serving the automotive industry. This result makes the auto parts and accessories becoming important to the economic development of Thailand. Therefore, the Thai government has strongly supported the auto parts and accessory industry for more than three decades.

When Thailand and other Asian countries will be unified as an Asian Economic Community (AEC), automotive manufacturers are likely to have a tendency to move their production base within countries in AEC. To retain automotive manufacturers in Thailand, the auto part manufacturers must strengthen themselves in the perspective of market orientation (customer orientation, competitor orientation, interfunctional coordination) which will bring about a stable industry environment.

From many studies, marketing is one of the important factors to enhance business performance. The result is that auto parts and accessories have put a strong endeavor by marketing their product globally, since the global market can encourage sales, profits, and performance. Then, this study concentrates on the measurement of auto parts and accessory performance through the concept of marketing.

Currently, the new concept is market orientation which has been viewed as significant for the firm to create a comparative advantage (Han & Srivastava, 1998). Narver and Slater (1990) indicated that researchers in marketing have been concentrating their studies and reports to reflect that market orientation affects business performance. Furthermore, it is a strong source of sustainable competitive advantage that focuses on finding opportunities for increasing market opportunity of the firm (Kirca, Jayachandran, & Bearden, 2005). Han, Kim, and Srivastava (1998) identified market orientation as an organizational behavior that focus on customers, competitors, and internal functions. Market orientation emphasizes that firms are systematically and entirely committed to continuous superior customer value. Competitive advantages are based upon satisfying customer needs so the firm has to perform better than their competitors (Martin, Martin, & Minnillo, 2009). Furthermore, some research on marketing found the crucial role of market orientation leading to business performance (Narver & Slater, 1994). Day (1994) pointed out that market orientation is an important indicator of the firm's performance that includes management's perception of the success of product advantage. Since, many research ensures that market orientation creates success of the firms, this research focuses on figuring out the market orientation that was applied to the auto parts and accessory companies who market their product internationally. In addition, many auto parts and accessory firms in Thailand have turned their market prospect to the global market, since those markets can create their economy of scale, profit, and performance. However, innovation is a mediator that relates to market orientation

and business performance (Sandvik & Sandvik 2003), since all of the innovations deliver greater added value to customers, producing a competitive advantage and better business performance (Wattanasupachoke, 2009). Furthermore, Wattanasupachoke (2009) summarized that the more product innovation, the more the positive impact will be on business performance. Radas and Bozic (2009) asserted that innovation in terms of a new or significantly improved product introduced to the market or within the enterprise are crucial for the firm's survival, growth sustainability, and profitability (Wolff & Pett, 2006; Verhees & Meulenbergh, 2004; Forrest, 1990). This is supported by Slater and Narver (1994) who demonstrate that the indicator between market orientation and business performance comes from product advantage which is part of product innovation since innovation enhances advantages for new products. Calantone and Di Benedetto (1988) suggested that product advantage for new products that relate to customer needs refers to benefits for the customer. Ledwith and O'Dwyer (2008) supported that market orientation, comprising of customer orientation, competitor orientation, and interfunctional coordination has significance for success in small firms and involves all functions in the development of product advantage. Verhees and Meulenbergh (2004) found that innovation is crucial for analyzing the relationship between market orientation and performance. Therefore, this research studies in depth market orientation that may have an impact on organizational performances and encouraging higher performance to the firm through innovation in Thailand.

Importance of the Study

Since, few research concentrates on the relationship of market orientation and business performance, the result of this research extends beyond previous research by presenting the relationship between market orientation and business performance through such factor as innovation. The findings can be used to enhance corporate management and culture so as to improve the bottom line and/or business performance. In addition, the subjects come from a particular group or industry and the researcher applied appropriate methodology in collecting data and analysis. Other researchers can apply the methodology used by this research for creating new theories concerning market orientation and business performance, but with other factors. Furthermore, at the empirical level, the result of this research can be developed for other research that focuses on market orientation and business performance for new ideas of marketing strategy.

In a broader view; the result of this study is beneficial at the national level. It is well known that auto parts and accessories are very important for economics both for national income and labor forces. The finding of this study is crucial for the economics of the country since business performance will have an impact on country performance. The government or government agencies can apply the result to their policies and operational plans in improving performance of auto parts and accessories to fit the needs of global customers. The redesign policy as a result of this study will directly support improving auto parts and accessories in their market orientation which will improve their performance.

Those actions are issuance of laws, regulations, and activities that encourage firms to derive better performance.

For the industry benefit, any organization such as professional associations or business alliances can apply the results to support their policies and operations for a better productivity and business performance. They can set up the programs concerning the concept of market orientation and innovation to help auto parts and accessories in improving their performance according to those factors.

From a practical point of view, the management of firms can apply the results to encourage their companies' performance. The result of this may be adopted to the business concept and consequently become the means of business operation to fit the environment. Auto parts and accessories in Thailand can improve their marketing strategies to overcome global competition.

Purpose of the study

The purpose of this study is to investigate the relationship between market orientation and organizational performance through innovations that include product and process innovation. Since the component of market orientation is customer orientation, competitor orientation, and interfunctional coordination, then this research examines the affects of customer orientation, competitor orientation, and interfunctional coordination through product and process innovations. Moreover, this study investigates the relationship between

innovation and organizational performances that provide a return on assets.

Finally, the results illustrate how the auto parts and accessories can apply the strategy of enhancing their business performances from the paradigm.

Research Questions and Hypotheses

As mentioned earlier, it is crucial to examine if market orientation has a significant impact on innovation. Furthermore, this research observes the relationship between innovation and business performance. Therefore, the researcher identified research questions as follow:

1. Does customer orientation have an effect on business performance (return on asset)?
2. Does customer orientation have an effect on business performance through innovation (product and process)?
3. Does competitor orientation have an effect on business performance (return on asset)?
4. Does competitor orientation have an effect on business performance through innovation (product and process)?
5. Does interfunctional coordination have an effect on business performance (return on asset)?
6. Does interfunctional coordination have an effect on business performance through innovation (product and process)?

To answer the above questions, the following hypotheses were obtained from reviewing the literature. Market orientation focused on customer orientation, competitor orientation, and interfunctional cooperation, and had a positive impact on business performance. In considering business performance, many researches indicate that market orientation or innovation had an impact on business performance (Narver & Slater, 1990; Kirca, Jayachandran & Bearden, 2005; Panigyrakis & Theodoridis, 2007; Amario, Ruiz & Amario, 2008). However, one wonders if the different market environments will cause similar results or not.

According to the first component which is customer orientation, many studies summarized that customer orientation enhances product innovation and process innovation (Narver, Slater & MacLachlan, 2004; Christensen, 2005). Grinstein (2008) applied Meta analysis to summarize the effect of market orientation and its components on innovation consequences. The results found that customer orientation affects the development of innovative products and processes particularly in a competitive environment. The reason is that firms can apply market orientation to enhance innovations for competitive advantages over competitors. In considering the second component of market orientation which is competitor orientation, it is obvious that firms apply new things to cope with their competitors. In addition, it has a relationship with customer orientation since both firms and customers have to perform to overcome the competitor. The research supporting this belongs to Frambach, Prabhu, and Verhallen (2003), who indicated that firms engage in a higher degree of competitor orientation for new

product and process innovation, particularly when they concentrate more on customer orientation. There is evidence showing interrelation between customer orientation and competitor orientation. Similarly and being in the same direction with the two components mentioned earlier, interfunctional coordination is obviously expected and performed by the entire firm to cope with customers and overcome competitors. This is supported by Porter (1985) who indicated that individuals can contribute to create value for customers by interfunctional coordination within a firm. Im and Workman (2004) found that interfunctional coordination is crucial for new product development. Innovation is significant for improved product development being introduced to the market (Radas and Bozic 2009). Additionally, the firm has to introduce innovations that are compatible with the needs of customers in order to maintain a competitive advantage and continued business performance. Therefore, innovations relate to market orientation and business performance. Han et al (1998) indicated innovations as a mediator to market orientation that contributed to the number of administrative and technical innovations. In addition, they also stated that innovations had an effect on market orientation and financial performance. Yamin et al. (1997) defined the narrow term of organizational performance in terms of financial measurements such as liquidity ratio, leverage ratio, total assets, turnover, profitability, and return on investment. Business performance in this study is applied by the return on asset (ROA), since a key figure is to view the reflective indicators of business performance with business performance measurements. Some studies focus particularly on product innovation and a firms performance

and found that product innovation can create a firm's performance and profit growth (Raynor 2003; Hult, Hurry & Knight, 2004; Gopalkrishnan, LaPlaca & Sharma 2006). The other evidence is that Koellinger (2008) investigated the relationship between technology, innovation, and firm performances by applying empirical evidence from e-business in Europe. The results showed that innovations help the investment on technology and affect a firm's performance. The hypothesis that figures out the relationship between market orientation and business performance should be as follows:

- H₁: Customer orientation has an effect on business performance (return on asset).
- H₂: Customer orientation has an effect on product innovation.
- H₃: Customer orientation has an effect on process innovation.
- H₄: Customer orientation has an indirect effect on business performance through product innovation.
- H₅: Customer orientation has an indirect effect on business performance through process innovation.
- H₆: Competitor orientation has an effect on business performance (return on asset).
- H₇: Competitor orientation has an effect on product innovation.
- H₈: Competitor orientation has an effect on process innovation.
- H₉: Competitor orientation has an indirect effect on business performance through product innovation.

H₁₀: Competitor orientation has an indirect effect on business performance through process innovation.

H₁₁: Interfunctional coordination has an effect on business performance (return on asset).

H₁₂: Interfunctional coordination has an effect on product innovation.

H₁₃: Interfunctional coordination has an effect on process innovation.

H₁₄: Interfunctional coordination has an indirect effect on business performance through product innovation.

H₁₅: Interfunctional coordination has an indirect effect on business performance through process innovation.

Limitations of the study

This research focuses on subjects in a single industry which is the auto parts and accessory companies in Thailand that export to other countries since other industries may have different characteristics and factors from the auto parts and accessories industry. The result of this study can only be generalized to the auto parts and accessories industry. Moreover, this study emphasizes only the supply side while in fact, industries may be affected by the demand side. To apply the result of this study to other industries, one should be aware of the limitation of different factors from different industries and different environments.

Definitions of Terms

Market orientation: organizational behaviors that focus on customers, competitors, and internal functions (Han, Kim & Srivastava, 1998).

Customer orientation: the understanding of the consumer needs as target buyers and creating superior value for them (Narver & Slater, 1990).

Competitor orientation: the understanding of a seller regarding strengths and weaknesses, long term capabilities and strategies (Narver & Slater, 1990).

Interfunctional Coordination: demonstrating the willingness by members of different functional areas of an organization to communicate and work together for the creation of value to target buyers (Woodside, 2005).

Product advantage: product's quality and superiority compared to competitor products including the ability to provide benefits and value to customers (Ledwith & O'Dwyer, 2008).

Product innovation: products that are developed and commercialized to customers in acquiring and using them (Sandvik & Sandvik, 2003).

Process innovation: introduction of some important modifications in the production process such as new machines or new methods of organization (Nieto & Santamartia, 2010).

Business performance: is focused on profitability to survive and financial efficiency such as ROI, ROA, and sales growth used as an ultimate outcome (Sandvik & Sandvik, 2003).

Competitive advantage: identified as the potential strengths and the weaknesses that a firm has in order to enable it to produce efficiently and effectively (Foley, 2005).

Customer satisfaction: customers consume a firm's goods and services and evaluate them overall (Foley, 2005).

Customer value: the benefits that customers expect from a given product or service (Narver & Slater, 1994).



CHAPTER 2

REVIEW OF THE LITERATURE

Introduction

This study is conducted to figure out the market orientation which has a relationship with business performance through product and process innovation. The subjects of this study are business enterprises in Thailand which have operated their business in the auto parts and accessory industry. The literature review focuses on market orientation, the relationship of market orientation and business performance, small and medium enterprises and market orientation with performance and measurement, and product and process innovation.

Market Orientation

Many researchers have accepted that the components of market orientation comprise three behaviors: customer orientation, competitor orientation, and interfunctional coordination. For more than 30 years some researchers were important pioneers in market orientation concepts and identified the three behavioral concepts of market orientation as customer orientation, competitor orientation, and interfunctional coordination (Kotler, 1984; Porter, 1985; Anker 1988 ; Narver & Slater, 1990).

Han, Kim, and Srivastava (1998) identified market orientation basically as organizational behavior with respect to customers, competitors, and internal functions.

This was supported by Panigyrakis and Theodoridis (2007) who identified the meaning by Narver and Slater as follows: (a) Customer orientation referred to sufficient understanding of target customers for the purpose of continuously creating superior value for them; (b) Competitor orientation referred to understanding the short and long-term strengths and weakness capabilities of current and new entrant competitors; and (c) Interfunctional coordination means to coordinate and appropriate firm resources for creating superior value for their customers. On the contrary, Kohli and Jaworski (1990) defined market orientation as “organization wide generation of market intelligence pertaining to current and future customer needs, dissemination of intelligence across departments, and organizational wide responsiveness to it”. Moreover, market orientation was explained by creating appropriate responses relating to current and future customer needs and preferences by applied organization-wide information generation and dissemination to activities. In other words, the organization generated market intelligence concerning current and future customer needs. In addition, it is also concerned with dissemination of intelligence across departments so the entire organization can respond. From the above explanation, customers were crucial to marketing research. Other evidence supported the importance of customer to market orientation as belonging to Deshpande and Farley (1998). This evidence concluded that market orientation was the cross functional activity to support customer satisfaction continuously. The other definition of market orientation defined in broader terms is the fundamental aspect of an organization’s culture that defines competitive value, norms, artifacts, and behaviors that collectively created the opportunity for a competitive advantage for the organization (Martin, Martin, & Minnillo, 2009).

In conclusion, the concept of market orientation had long been approached in two dimensions as culture or business philosophy and behavior (Dreher, 1994; Amario, Ruiz, & Amrio, 2008). For the importance of market orientation, Martin, Martin, and Minnillo (2009), indicated that market orientation was an important source of sustainable competitive advantage and a leader's mental model was important to bring market orientation to organizational culture. To understand market orientation in detail, those three components should be identified and explained clearly.

Customer Orientation

Day and Wensley (1988) explained that customer orientation requires that sellers focus their activities on the entire value chain in response to customer needs. Furthermore, Narver and Slater (1990) supported that sellers can create value to customers by increasing the benefit in relation cost and decreasing cost in relation with the buyer benefits. Therefore, customer orientation is the potential of the seller to create superior value to their customers in terms of cost and benefits. Han, Kim, and Srivastava (1998) stated that many researchers put equal importance on customer orientation, competitor orientation, and inter-functional coordination. Firms that had a policy of customer orientation always concentrated on acquiring information concerning customer's latent needs. The firms encouraged innovation in response to latent needs (Narver, Slater, & MacLachlan, 2004). Another study supporting this result belongs to Christensen (2005) who discovered that customer orientation is important to marginal innovation since customers have difficulty explaining their latent needs. Customer

orientation performs effectively by investigating what the customer needs are and responding to those needs with new innovations. However, those considering customer orientation were the most important. The rational support for this marketing concept concentrated on the customer first and then various factors should follow the customer needs.

Competitor Orientation

Competitor orientation was identified in terms of seller behavior that understood current and potential new entrant competitor's strengths, weaknesses, and capabilities of a long term strategy (Porter, 1985; Narver & Slater, 1990; Day & Wensley, 1998). To identify the competitor, the crucial questions were: 1) who were the competitors, 2) what technology did they offer, 3) did they represent an attractive alternative from the perspective of the target customers (Slater & Narver, 1994). Some studies found that the firms that were competitor oriented put their efforts in creating market programs different from their rivals and could continuously progress against their competitors (Im & Workman, 2004). Furthermore, Frambach, Prabhu, and Verhallen (2003) found that firms engaged in a higher degree of competitor orientation for new product performance when they concentrated more on customer orientation. This was the evidence of interrelationships between customer orientation and competitor orientation.

Interfunctional Coordination

The other component was interfunctional coordination; Porter (1985) stated that individuals could contribute to create value for customers by coordination between functions within a firm. In addition, Narver and Slater (1990) referred to the internal factors that coordinate the allocation of firms' resources to increase the superior value of firms' customers. According to the value chain model, it is included that every activities purpose is to generate the firms' value. The firms' profit is an indicator of this value. Furthermore, Im, and Workman (2004) indicated that interfunctional coordination illustrated the level of interaction and communication in the firms and was crucial for new product development.

For the study of market orientation and measurement, researchers in many countries placed their interest in this topic because marketing was crucial to the success of the entire firm. Researchers studied various types of businesses that were different (retail to industry). Panigyrakis and Theodoridis (2007) studied retail firm's market orientation and performance by examining the adoption of market orientation which affected performance. They used retail firms in Greece as their subjects. They applied the 20 item MARKOR instrument that was developed in 1993 by Kohli and Jaworski as the instrument for collecting data. The result presented a positive effect of market orientation on performance of retail firms. Moreover, it supported that market orientation was a crucial determinant to a firm's performance in Greece. The implication for a retail business operating in Greece was that they should continue their practice of market orientation and encourage the firm's culture to be market driven.

The study that was conducted using subjects from industrial firms and similar research belongs to Beverland and Lindgreen (2007). They studied implementing market orientation in industrial organizations. This study was conducted in New Zealand by suggesting that Lewin's model adopted market orientation and combined planned change theories with limited study on performance of market orientation. The results indicated that in implementing the market orientation program it is often a complicated and politicized process. Furthermore, to implement a market orientation, marketers needed formal authority. This study should setup coalitions with key stakeholders to build sustainable support in the market orientation program throughout the process change. This result was congruent with the internal situation of all firms so that when new programs were implemented, employees were important factors to having the program successfully achieve its goal.

Kaynak and Kara (2004) conducted their comparative study between industrial and consumer companies in market orientation and organizational performance in China. The researchers aimed to consider the reliability and validity of market orientation occurring in Asia that was determined to be of a different culture, business environment, and social economics. This study used MARKOR belonging to Kohli and Jaworski (1990) as an instrument for investigation. This instrument applied Likert levels of scales from 1-5 (from strongly disagree to strongly agree). The questionnaire presented questions concerning the firm's performance and demographic background. The results found significant difference between market orientation and non market orientation of managers in China. Moreover, the finding indicated a higher level of market orientation for Chinese companies operating in Beijing the capital city. Finally,

the researchers concluded that intelligence generation, dissemination, and responsiveness were important factors that affect market orientation and consequently had an impact on performance of organizations in China.

In determining the employees or staff of a company, culture was always mentioned as the main idea by researchers in social sciences. Some work has been done to recognize the importance of culture which may have an impact on market oriented activities within a firm. Gainer and Padanyi (2005) studied the relationship between market oriented activities and culture. This study investigated the alternative models that separated culture and behavior and the relationship that might affect market orientation. In addition, this study adopted 12 items belonging to Narver and Slater (1990) of a 15 item scale. The questionnaires were distributed to 1,805 subjects who were nonprofit organizations. There were 559 questionnaires returned which was a 31.0% return rate. However, to ensure that the sample consisted of organizations of sufficient size to be managed by professional managers, respondents with annual operating budgets of not more than \$50,000 was eliminated. The final number of questionnaires used was 453 which are 25.1%. Some parts of the analysis were considered by using Chi Square testing. then, the total number of questionnaires were split in half with odd cases of 227 questionnaires for model testing and even cases of 226 questionnaires for cross validation. The findings ensured that an unduly improved sample size would not affect the Chi Square and indicated that a positive relationship between market-oriented behaviors and organizational performance was mediated by market-oriented culture. Moreover, this finding encouraged an understanding of the

relationship between market orientation culture and behaviors in a particular type of organization which was nonprofit.

The other study that supported internal activities concerning market orientation was by Im, Hussain, and Senguptasubin (2008). This study's framework was based upon testing the interaction which affected the dimensions of market orientation on the activity of a marketing program. This research developed a model that indicated the interaction affect on customer orientation, competitor orientation, and interfunctional coordination that might generate marketing program creativity. To figure out the empirical result, they applied two stages that are least squares estimation and found significant positive interaction between customer orientation and competitor orientation. The result found significant positive interaction effects between competitor orientation and interfunctional coordination. Moreover, the results indicated significant and positive interaction between each dimension in improving the marketing program.

Not only did the researchers conduct their studies based upon culture over market orientation with internal situations but they also performed their studies on the relationships between market orientation and external situations. Sanzo, Santos, Va'zquez, and lvarez (2003) conducted their study to verify a model that cultural market orientation within firms perform as an antecedent to encourage the satisfaction level with their major supplier. 174 samples of industrial firms in Spain provided empirical data for analyzing the conclusion. The major finding was that the cultural market orientation of buyer firms had an impact on the degree of satisfaction to their major suppliers. In practice, the firms should be aware of the implications concerning communication, conflicts, and perceived value and trust. Those factors could be

considered in terms of people who were concerned with the customers. The firms should instruct in organizational culture which focuses on market orientation. This study is supported by Gotteland and Boulé (2006) who conducted research which indicated that market orientation could affect external situations in the instance of product performance. The authors studied the relationship between market orientation and new products and found research concerning moderators of market orientation in relation with product performance that had concentrated on environmental conditions. This research studied the moderating role of perceived environmental conditions. The determination concentrated on the characteristics of new products, including the level of degree of market advantage and the characteristics of its development process including the degree of cooperation between departments during the process, the level of creativity in marketing programs, and the intensity of development tasks. These factors were found to encourage more understanding of the mechanisms concerning changes in market oriented culture that had an effect on new product performance. The aim of this study was to model a new mediating variable typical of the processes and conceptualize and apply available information of the environment after pre-testing questionnaires were conducted with ten product managers and sale directors from large and medium sized firms. 500 questionnaires were distributed to the subjects who were product managers and sales directors of firms that had more than 50 employees and a turnover of more than 10 million Euros. There were 142 final questionnaires with a percentage of 28.40. The results indicated that the measures of environmental conditions led to a convergent finding. This result helped simplify the replication in other contexts and in other areas. In addition, the mediation role of applying information was suggested so

that managers could make sure that their team would fully make use of available information concerning customers and technology. In summary, the results found the role of managers to use information benefited their firms in terms of the relationship between market orientation and new product performance. The results confirmed that internal market oriented culture had a relationship with the external situation. Some studies on internal capabilities and external market conditions concerning market orientation belong to Gounaris (2006). The research performed empirically in determining an instrument that can be used to assess the degree of internal market orientation adopted within a firm. The method for collecting data was by personal interviews via telephone to 583 subjects made up of management and employees from 29 hotels. The data analysis was separated into the psychometric attributes of the internal market orientation scale and the scale's predictive validity. The researcher concluded from his study, that if developed, an internal market orientation (IMO) might increase the effectiveness in responding to external market conditions since the management of a company could align external market objectives to appropriately fit internal capabilities.

Another interesting study on market orientation and culture belongs to Deshpande and Farley (2004). The interest and importance of this study was that the research was performed in an integration of market orientation with various factors over a firms' performance. The researchers who conducted their study concentrated on how organizational culture, market orientation, and innovation have an impact on a firms' performance, particularly in business to business markets extending the model of competing values of organizational culture as a framework. The area of their study was

started in Japan and they extended their discussions of empirical similarities and differences to rich and poor countries, in emerging economies, and in countries that presented economic transition to more of a degree of driven markets. This research found that there were significant differences between countries in the means of all variables; this might reflect the result from different cultures that had an effect to the relationship between market orientation and innovativeness on a firms' performance of particular country.

The Relationship of Market Orientation and Business Performance

Various researchers in marketing found that a crucial role of market orientation lead to business performance (Slater & Narver, 1994; Greenly, 1995; Bhuian, 1997; Kara, Spillan & Deshield, 2005). Furthermore, many researchers indicated that the positive outcome derived from performance comes from the development of market orientation (Kennedy, Goolsby & Arnould, 2003; Weerawardena & O'Cass, 2004). Substantial empirical studies have been undertaken to identify the relationship between market orientations that may have an impact on a firm's performance. Hult, Ketchen, and Slater (2005) performed their study on market orientation and performances: an integration of disparate approaches indicated that market orientation had an impact on performance; however, the effects depend on organizational responsiveness. This result was supported by Bhuian, Menguc, and Bell (2003). They studied the effect of entrepreneurship on the relationship between market orientation and performance by using populations from hospitals in United States. The

result ensured that market orientation and entrepreneurship were two key elements for the success of an organization. In addition, the finding indicated when the firm maintained a moderate level of entrepreneurship orientation, market orientation proved most effective. Furthermore, the finding was consistent with contingency views of entrepreneurship, which meant a high degree of entrepreneurship was not similar in certain market and structural conditions.

Cross sectional studies were found in the study of market orientation and longitudinal studies also appeared. Gebhardt, Carpenter, and Sherry (2006) conducted an in-depth longitudinal investigation of many firms that recorded successful market orientation. The conclusion found dramatically changing in organizational culture and establishment of shared market understanding were important in achieving successful market orientation. However, the cultural s and behavioral perspectives were not mutuality exclusive; indeed, they were complementary (Amario, Ruiz & Amrio, 2008).

Sorensen (2005) studied the development and empirical validation of two symmetric component measures of market orientation. The results found that in a competitive environment, a firm's competitor and customer orientation had no relationship with return on assets. On the contrary, in different environmental conditions, the results found competitor orientation, and particularly customer orientation, had an impact on a firm's return of assets. The other studies that were interesting belonged to Kirca, Jayachandran, and Bearden (2005). They performed meta-analysis concerning market orientation and found insignificant empirical evidence to the market turbulence, competitive intensity, or technological turbulence moderating the relationship between market orientation and performance. However, this study

analyzed that to implement the market orientation might consume resources, but it generated profit over the cost. Second, Bakar, and Hashim (2004) stated that competitor orientation referred to the awareness and understanding of a firm's current and possible competitors concerning strength, weakness, and their long term potentials and strategies. In addition, they referred interfunctional coordination as utilization of the firm's resources in creating superior value for its customers, which closely links to customer and competitor orientations.

In determining the market orientation that might have an impact on business performance, Kirca, Jayachandran, and Bearden (2005) found that empirical work supported the proposition that market orientation had a positive impact on a firm's performance. The other evidence belonged to Panigyrakis and Theodoridis (2007). They examined the market orientation which related to performance of a retail firm. Their subjects were selected from chain stores of supermarkets. The results found a positive effect of market orientation on the performance of a firm. This was congruent with a former well-known study conducted by Narver and Slater (1990) that developed instruments for measuring market orientation that associated with performance. The results concluded that market orientation was an important determinant of business profitability. This clearly indicated that market orientation was a crucial determinant to a firm's performance. However, Song and Parry (2009) argued that this study could not conclude that increases in market orientation were always beneficial, since the statistical models assumed a linear relationship between the achieved level of market orientation and performance. This research studied the desired level of market orientation and business unit performance by using subjects from 308 US firms. The results indicated

the desired level of market orientation was a function of market turbulence, competitive intensity, technological turbulence, and innovation strategy. Furthermore, the desired level of market orientation expressed positive influences on the achieved level. In addition, business unit performance expressed a negative function of the difference between the desired and achieved levels of market orientation when the achieved level of market orientation was less than the desired level.

The research on business unit performance and the gap between ideal and achieved levels of market orientation had interested some researchers for a period of time. Vorhies and Morgan (2003) stated that superior performance was derived from a desired set of organizational characteristics which were a set of strategic characteristics. Furthermore, they found from their empirical study that the gap between a firm's purposes and organizational characteristics had a significant impact on marketing performance. Important and well-known research on market orientation and management was performed by Kohli and Jaworski (1990). The researchers studied market orientation and managerial implications. However, the components of market orientation in this research were customer focus, coordinated marketing, and profitability. In addition, their studies applied supply-side and demand-side as a moderator. The results suggested that market orientation might or might not be necessary for business depending upon the important factors such as the nature of supply and demand. Furthermore, it was important for management to improve the market orientation of their organization. In addition, their studies concluded that market orientation needed resources that must be supported by management, since market orientation benefitted from the outcome over the cost of the resources required. While

prominent consideration of market orientation has focused on firms' performances, some studies placed their interested in the market orientation and the cognitive model of the firms' leader. Martin, Martin and Minnillo (2009) studied implementing market orientation in small manufacturing firms with a cognitive model. This study focused on cognitive models of the CEO's to see the difference of those CEOs from market and non market orientation firms. The result illustrated significant difference between CEO's from high and low market oriented firms. For market oriented firms, CEO's encouraged and rewarded employees for collecting, sharing, and responding to market information. Consequently, those behaviors led to inter-functional cooperation and customer satisfaction. CEOs from high market orientations decentralized their authority to specific work groups. On the contrary, CEO's from low market oriented firms focused on product specifications and product quality offerings to customers. They tried to create the best quality products and the best manufacturing with the most efficiency. The CEO's were normally centralized, formal, and hierarchical in structure.

According to different market environments that may affect market orientation, the literature review of this study addresses this gap by examining market orientation within international situations. Amario, Ruiz and Amario (2008) studied market orientation and internationalization in small and medium sized enterprises. The results found that the market orientation behavior of these firms supported international performance of their marketing activities. Furthermore, a firm that applied market orientation to organizational culture would benefit for their potential to exploit new market opportunities. Market orientation had not only some effect to marketing in a domestic environment, but also affected international marketing. This was interesting

for industries in Thailand which had their objectives set on international operations. They adopted internationalization by applying market orientation behavior to the firm's culture, which consequently created more performance for their businesses. In addition, Ledwith and O'Dwyer (2009) found that few researchers had performed the market orientation of small firms. They studied market orientation, new product performance, and organizational performance in small firms. The results found that the relationship of market orientation in large firms did not always apply appropriately to small firms. The results also indicated significant relationships among those three factors defined in the topic. Interestingly, they found lower levels of competitor orientation than customer orientation and inter-functional coordination. It obviously indicated that small firms should concentrate more on what their competitor marketing strategy is. In terms of organizational performance, small firms should put their efforts in applying financial performance and new product development.

However, some research found different results that indicated a relationship between market orientation and a firm's performance. Min, Mentzer and Ladd (2007) studied market orientation in supply chain management and found market orientation and a firm's performance have no positive relationship. Furthermore, indirect support of market orientation to supply chain orientation was not found. The other studies concerning market orientation and small software firms that tried to internationalize their firm's belong to Ruokonen (2008). This was an interesting study, since it applied various methodology of collecting data. The study used both interviews and information from websites to complete the results. He focused on market orientation and product strategies in small firms that tried to internationalize their companies by

making direct foreign investment into various countries. The methodology applied for collecting data was face to face interviews, which concentrated on explaining the strategy for internationalizing firms and their history of success. The researcher considered each company's interview data by focusing on analysis of the particular distinguished features of their market orientation practices. Furthermore, secondary sources of information from websites were considered for improving the reliability and validity of the results. He conducted a cross case analysis and compared the market orientation practices in each case to obtain a full set of information concerning the situation. The findings offered a retrospective viewpoint of the results from the rapid internationalization of small firms. However, a company's performance in foreign markets was relative to a certain point in time. Those companies that were selected to be subjects had different results of their international operations. It was difficult to estimate the results for the next five years. The researcher suggested that future studies provide follow-up in order to figure out the results in order to cover a long range of time.

Business Performance and the Measurement

Yamin et al. (1997) defined the narrow term of organizational performance in terms of financial measurements such as liquidity ratio, leverage ratio, total assets turnover, profitability, and return on investment (ROI). In addition, many researchers studied innovation and business performance by applied financial indicators for their conclusions (Chaney et al., 1989; Cohen & Levinthal, 1989; Drazin, 1990). The other

evidence came from the research performed by Akgun, Keskin and Byrne (2009). They adapted the measurement scales from Ellinger et al. (2002) and York and Mire (2004) which included return on investment, market share, sales, profitability, earnings, gross margin, and market value. Even though financial data was important for company's performance, there are other concepts used for measurement. Sandvik and Sandvik (2003) defined concepts of business performance generally in either efficiency or effectiveness. Financial efficiency such as margins, return on investment, and profitability were typically applied for measurement of performance. Furthermore, they stated other aspects of a firm's performance were value that firms delivered to customers, level of sales, sales growth, and market share. This was interesting for other studies, as other aspects of a firm's performance are considered in terms of other subjective factors which should be addressed.

Some studies support that this was the result of innovation and could be considered by the marketing process to provide the payoffs of innovative activity in a firm. This was determined via a market process that involved not only the activities of the innovator, but also the reactions of customers and competitors. Thus, the payoffs of all actors in a market were interrelated (Koellinger, 2008). In considering a firm's performance and innovation, some researchers studied logistics and figured out the result of the effect between innovation and a firm's performance. Craighead, Hult and Ketchen (2009) studied the effects of innovation and cost strategy with a firm's performance. The methodology for measuring the firm's performance relied upon return on assets (ROA). The results indicated that knowledge development capacity, intellectual capital, and their interaction had an impact on specific products, depending

upon the particular innovation–cost strategy. In addition, this study found that supply chain strategy, knowledge, and action were key antecedents to a firm’s performance.

Some studies were performed in Taiwan, which was similar to this study performed in Thailand. Tseng, Chiu, and Chen (2009) studied the business performance of the high technology manufacturing industry to figure out the outcome from multi dimensional measurements. To develop the performance evaluation model, the researchers first divided the dimensions of business performance into terms of financial and non-financial. Those were competition performance, financial performance, manufacturing capability, innovation capability, and supply chain relationships. Second, they evaluated the relative importance of those variables to summarize the right indicators. This research had data from the companies in Taiwan which were the numerical performance scores from the selected indicators providing a quantitative business performance outcome. Finally, they compiled the performance scores and ranked those subjects. The finding was that Taiwan’s large-sized companies concentrated more on competition (market share and sales growth rate), and financial performance (earning profitability, capital structure, market value, and cash turnover). However, they maintain a supply chain relationship (upstream material, and supplies) and encouraged innovative capability (patents). On the contrary, the results found there was less concern in manufacturing capability (cost efficiency, productivity, and others). However, the researcher explained that the subjects tried to confide those performances to the outsider. Obviously, Taiwan’s manufacturing companies were found to be very strong in their manufacturing capabilities.

A study that focused in the importance of the top management team and the performance of their organization belongs to Harmancioglu, Grinstein, and Goldma (2009). They studied a firm's innovation and performance by examining the affect of the top management team's (TMT) involvement in market information collection efforts. They developed and tested a model that included three dimensions: First, the dimension concerning the positive effect of TMT's involvement in market information collection efforts in a firm's innovativeness above and beyond the employee market information collection efforts. Second, they focused on the moderating effect of a firm's size and industry context (i.e., high-technology versus low-technology) regarding model relationships, indicating that the relationship was stronger for smaller firms and high-technology companies. Finally, they placed their interest in the mediating effect of a firm's innovativeness in the relationship between TMT's involvement in market information collection efforts and overall business performance. They tested those models in a business-to-business context. The findings indicate that the top management team that concentrates on collecting market information will increase business performance through increased innovativeness. In addition, the top management team plays an important role in the strategic direction of the organization, particularly in new product development activities. Moreover, they found that the top management that was highly involved in collecting the market information and working closely with their customers would acquire a good sense of the market. Consequently, this illustrates the importance of a firm's innovation processes and outcome. The other studies support the importance of top management to market orientation and clearly define its statistics used for measuring market orientation from two U.S. industries. Harrison-Walker

(2001) studied the measurement of market orientation and its effects in business performance. He used multiple-informant data from two US industries; a hotel accommodation and a beverage manufacturing company. The subjects were senior marketing executives and mail surveys were the instrument for collecting the data. The researcher purposed to find out the relationships between customer and competitors that had an impact on market orientation and business performance. To analyze the data, he applied MANOVA, Stepwise Regression Analysis, and Goodness of Fit to figure out the hypotheses. The finding was that customer and competitor had a significant positive impact on market orientation. However, the customer alone had a significant positive impact on the business performance.

One research that applied MANOVA for measuring the findings was the study of Matsuno, Mentzer and Rentz (2005). They studied a conceptual and empirical comparison of market orientation compared between three sources of scales. They attempted to improve the conceptualization and measurement of market orientation by conceptually and quantitatively comparing the scales of Kohliand and Jaworski, Narver, and Slater. In addition, they developed the extended market orientation scale. To compare these three different scales, they randomly assigned 2000 marketing executives from the original mailing list to one of the three scales since, they wanted to ensure minimal sampling error and to have the results empirically comparable over those three scales. They applied MANOVA to the seven performance variables across the three types of questionnaires. Moreover, multivariate statistics such as Pillai's Trace, Wilks, and Hottelling's Trace were also used and found to have no difference between the groups of those three scales.

Some studies applied web for data collection and were analyzed by using regression analysis. Shaltoni and West (2009) conducted their study on the measurement of e – marketing orientation concentrating on business to business markets. They examined the organizational orientation perspective and empirical measurement with electronic market orientation (EMO) for their variation in e-marketing adoption. The statistics applied to test the hypotheses for empirical results was regression analysis. The subjects were senior managers of marketing/sales and they were surveyed on the internet. The result indicated that marketers were able to benchmark their activities toward adoption and evaluated efforts to gain their resources in improving e-marketing processes.

Small and Medium Enterprises and Market Orientation with Performances

Another theoretical contribution of this study concerns size of the firms and their performance along with market orientation. In considering small and medium sized enterprises with market orientation, product and process innovation, and measurement of business performances, the researcher investigated various aspects of research. Some aspect concerning market information, that was obviously crucial to the success of marketing activities, Song, Wang, and Parry (2009) stated that the use of formal market information had a positive effect on the performance of a firm. They studied the performance of new ventures concerning levels of customer interaction and the use of formal processes for collecting and utilizing market information. Subjects of 224 new ventures were used to test the hypotheses. The results indicated that formal

processes for the collection of market information had a positive relationship with the new venture performance. However, they found no significant relationship between performance and the use of formal processes for the utilization of market information. This is evidence that performance and marketing may have a relationship in some degree or some level. However, the relationship may not occur in every situation.

The other aspect concerned intra-firm innovation and related activities which had traditionally been perceived as being basic drivers of product and service differentiation. For this aspect, the literature review found some studies focused on considering intra-firm's of small and medium sized enterprises in innovation, market engagement, and their financial performance. Liao and Rice (2010) studied the linking of primary R&D and related activities within Australian small and medium sized firm's market and measurement of their performance. The sample sizes were from 449 Australian manufacturing companies from the Business Longitudinal Survey derived from the Australian Bureau of Statistics. The model for examining the impact of innovation on firm's performance was mediated through a firm's market engagement and transformation strategies that were developed for the test. The results found that only when mediated through these transformation outcomes will innovation drive organizational performance. Furthermore, innovation-related activities could create a competitive advantage for a firm, only when they occurred along with actual changes in the market position of a firm.

Not only market information from internal firms, but also external networks could provide information which consequently had an impact on some factors since the use of external networks are used to increase innovation and can create growth for small

and medium enterprises. Xeng, Xie and Tam (2010) explored the relationship between cooperate networks and innovation performance of small and medium enterprises. They used 137 Chinese small and medium manufacturing firms as subjects and applied the structural equation for modeling their study. The results found positive significant relationships between inter-firm cooperation, cooperation with intermediary institutions, cooperation with research organizations, and innovation performance of SME's. Inter-firms cooperation presented the highest positive effect to the innovation performance of SME's. This could be summarized that cooperation with various groups of stakeholders like customer, supplier, and other firms was more crucial to the innovation process of SME's than cooperation with research, educational institutes, and government agencies.

In considering the SME's and their orientation, innovation, product success, and performance, there were many studies such as the work completed by Avlonities and Salavou (2007). This study concentrated on entrepreneurial orientation and product innovations and performance of SME's. The researchers aimed at studying the link of entrepreneurial orientation and performance and to explore the entrepreneurial profiles in order to summarize the dimension of different performances in term of product innovativeness. They separated the sample of 149 manufacturing companies into two different groups: active and passive entrepreneurs. The results are explained in three sets: First, the new product uniqueness dimension found significant differences when compared between active and passive entrepreneurs. This could be explained in terms of active entrepreneurs who were proactive and ready to take risks, demonstrated by more unique characteristics product innovations, and resulting in a higher performance. Second, the difference in new product innovation of the firm's dimension was only 7%

and did not affect product performance. Third, there was no significant difference in product newness to the customer's dimension between passive entrepreneurs and active entrepreneurs because the two group's emphasis was similar in new products perceived by customers.

However, in considering SME's and their innovation, it was found that many SME's preferred applying other innovations to improve their competitive advantage when entering a new market. This may come from small or medium sized firms who have a low potential in creating innovation themselves, since innovation needs both high investment and expert employees to achieve the goals. Some research contributed to figuring out the novelty of innovation used to develop small and medium sized manufacturing firms. Amara, et al (2008) studied the appearance of product and process innovations. They adopted a firm's perspective to examine the degree of novelty of innovations of SME's that had developed product or process innovations. The results indicated that various types of learning had an impact on the appearance of innovation and the degree of novelty of innovation. Overall, the various methods such as learning by doing, learning by training, and learning by interacting expressed the highest impact on the degree of novelty of innovation of established SME's. Those results could be applied in developing practical implications for policy makers of the SME's.

Other research which emphasized product success of small and medium sized enterprises belongs to Huang, Soutar and Brown (2004). They examined the measurement of new product success and the measurement practice adopted by small and medium enterprises in Australia. They analyzed the data from mail surveys that

were distributed to 276 SME's from two most innovative industries: chemical and machinery. The instrument was a questionnaire with a five-point scale including some questions concerning their most recent new products, measurement of the success of that project, and how well the new product had performed in the 16 core measures. In addition, the questions included perception of the product's overall success and how the SME's evaluated new product success. Results indicated four factors: financial performance, objective market acceptance, subjective market acceptance, and product-level measures relating to each other and their appropriateness for predicting overall measurement. The conclusion was that the most frequently applied measures in Australian SME's included customer acceptance, customer satisfaction, product performance, and quality.

Some researchers put their main stream studies on marketing resources that might associate with a firm's performance. Spillan and Parnell (2006) studied marketing resources and firm performance of the SME's. This paper examined the link between seven marketing resources associated with customer orientation and performance. The researchers conducted the research by applying marketing orientation scale items adopted from Kohli, Jaworski and Kumar (1993) which included three sections of the Likert scale and also included questions about performance, revenue growth, market share, and ROI of the last three years. Two basic findings consistent with the literature were presented. First, a greater emphasis on market orientation and culture and customer orientation was significant to SME's marketing efforts in order to establish performance, culture, and philosophy on market orientation. Second, the result found that a greater emphasis on inter-functional coordination was crucial to the

market orientation approach of the SME's. The higher degree of market orientation the firms had, the more emphasis interfunctional coordination was.

Product and Process Innovation

The other body of this review investigates innovation within firms. The innovation of this study concentrates on both product and process. Products are responses to customer's need and process refers to the manufacturing procedures used to produce the product for customers. Therefore, the innovation of those two factors concern innovation of new products and manufacturing processes those firms have. In addition, the review also aims at investigating studies concerning innovation that affect a firm's performance.

Product Innovation

In determining product innovation in terms of marketing functions, innovation referred to the modification of existing products and platforms (Ali, 1994). Govindarajan and Kopalle (2004) expressed innovation in firms by dividing them into radical innovation and disruptive innovations. Radical innovation was the new technology relating to existing technology. For the other view point, the development of new products to compete in the market was disruptive innovation. Product innovation could create a firm's performance and profit growth (Raynor, 2003; Hult, Hurry, & Knight, 2004; Gopalkrishnan, LaPlaca, & Sharma, 2006,).

Product innovation could be defined in two dimensions: those which were “new to the firm” and products “new to the market”. “New to the firm products” were those used by the firm for the first time, even if other firms in that market might already offer products that were similar. “New to the market products” were those that were the first of their kind in the market. Those products might be developed by the firm itself or adopted (and adapted) from firms in other markets and industries (Sandvik & Sandvik, 2003). Another aspect belongs to Orihata and Watanabe (2000). They stated that to ensure a company continue to survive and grow; they had to create product innovation. First, the companies had to create new market demand for innovative products. Second, the companies must create obstacles to prevent easy duplication by rival companies. Interestingly, one researcher concentrated his study on the partners. Tsai (2009) investigated the effects of different types of partners on product innovation performance as measured by innovative sales productivity. He examined the moderating role of absorptive capacity which was identified by Todorova and Durisin’s (2007) as five dimensions: recognition, acquisition, assimilation, transformation, and exploitation. The results found that absorptive capacity had an impact on different types of partners in product innovation performance. In addition, it affected the relationships between collaborative networks and product innovation performances at different levels of product innovativeness, such as firm size and industry type.

Despite the trend toward studying what the environmental impact may be on product innovation, Jurado et al. (2008) examined the external and internal factors. They analyzed those factors effect on product innovation of a firm and how it varies by industry. They applied three econometric models to figure out the effects of those

factors. It was important to consider that this research used a large sample size of 6,094 manufacturing firms derived from the Spanish Survey of Technological Innovation 2000. The finding was that the firm's technological competences from in-house R&D were important for considering product innovation. In addition, in the high levels of competences, the technological opportunities from non-industry firms were less important regarding innovation. Furthermore, the researchers stated that the determinants of innovation varied depending upon the degree of novelty of the product developed and the industrial sector.

Another study of importance in term of new ventures that was considered by small and medium enterprises and which is similar to this study belongs to Song and Benedetto (2008). They conducted their research by focusing on new ventures. They studied the involvement of the supplier in the success of new product development in new ventures. According to the methodology applied for figuring out the results of the development of radical innovations by new ventures, they built and tested a conceptual model with the antecedents and new product performance outcomes of supplier involvement. Based upon review of their literature, they expected that two antecedents, specific investments, and the qualification of abilities had positive effects on supplier involvement. These two variables were selected as the antecedents of supplier involvement. Antecedent variables, such as supplier specific investments and the new venture's qualification of the supplier's abilities, were considered from the transaction cost analysis literature. Automotive parts and accessory firms in Thailand are small and medium sized and some may be the new entrants in the industry.

Also, a new venture's relative power and level of commitment to the supplier as a contingency condition were included. Then, a set of hypotheses relating supplier involvement to radical innovation performance and relating the antecedent variables to supplier involvement were developed and tested to find out the interaction effects of the two contingency conditions. Data was derived from both new ventures and their major suppliers for 173 recent radical innovation projects. Statistics applied as the hypotheses testing were hierarchical regression analysis. The results indicated that the contingency conditions monitored achieved levels of supplier involvement and also indicated a direct relationship between achieved levels of involvement and performance. This was supported by Johnsen (2009). He conducted his study concentrating on supplier involvement in new product development and innovation. The researcher presented a comprehensive review and synthesized the current state of empirical research concerning supplier involvement in new product development. He defined and evaluated supplier involvement in new product development. The results found early and extensive supplier involvement in new product development projects had the potential to improve new product development effectiveness and efficiency. On the contrary, some argued that few studies had considered the role of wider supply networks had on innovation (Staudenmayer et al., 2005; Chesbrough, 2003). They suggested that products and industry should interact with many partners and encourage extensive research into industrial networks.

Some researchers performed their studies based upon comparing different cultures. Song and Thieme (2006) investigated how crossing nations in R&D–marketing interfaces in product innovation processes compared between China and

Japan. The results implied that for success of new product development, Chinese firms should decrease levels of perceived environmental uncertainty and increase level of harmony between departments and should encourage a degree of participation in making a decision. Similarly to the Chinese, Japanese firms should increase levels of harmony and participation in making a decision. Iyer, LaPlaca, and Sharma (2006) studied innovation and new product introductions in emerging markets. They looked at India market as an emerging market and a large developing country where they could extend the theoretical results to the other emerging economies in Asia such as China. The results indicated that culture affects a firm's product development and level of innovation. In addition, an innovation climate of a firm is supported by innovation orientation, which consequently makes a firm more stable in the marketplace. Another study that had concerning culture was completed by Kok and Biemans (2009). They performed their research by analyzing how and why industrial firms make their innovation processes more market oriented. The finding was that managers prefer creating market orientation in product innovation rather than in cultural change programs.

In considering market orientation and product innovation, various studies presented their results concerning the relationship between market and product innovation since innovation could create product performance which was important to successful marketing. Some focused their studies on investigating market orientation as an antecedent of innovation activities and performance (Han et al., 1998; Sandvik & Sandvik, 2003). The result from their studies was that market orientation affects new product performance both directly and indirectly, depending upon conceptualization of

market orientation in the context of innovation. However, Langerak et al. (2004) found that a market-oriented culture was positively related to proficiency in strategic planning, idea generation, and idea screening which in turn influenced new product performance. This illustrated little difference. On the contrary, Wei and Morgan (2004) argued that a firm's market orientation directly affected new product performance. In addition, the firm's climate affected market orientation.

Branzei and Vertinsky (2006) focused their research on product innovation capabilities in small and medium sized firms. They articulated a two-dimensional typology of dynamic capabilities: 1) the life-cycle stage and 2) the timing of expected returns. Samples came from a cross-industry of small manufacturing and medium-sized provincial enterprises in the Canadian manufacturing sectors. They were randomly split into two stages. For the first stage, the researchers applied an unconstrained exploratory factor analysis on the first half of the sample. In the second stage, they applied factor analyses on the second half of the sample to ensure the relationship between variables. The validation and mapping of four distinct innovation strategies into particular sets of product innovation capabilities was used. The results indicated that the efforts on human capital development catalyzed both the external absorption and the internal emergence of novel capabilities. The more concentration of product features and broader market access encouraged the effective replication of extant capabilities which would respond to the immediate outcome.

The other study focusing on information and small firms belongs to Verhees, Meulenbergh, and Pennings (2009). They studied that small firms operated by an owner-manager performed beyond expectations according to radical product innovations. The

researchers considered the context of radical product innovation that might affect the differences in performance expectations. However, the study did not focus on environment determinants of performance expectations such as business cycles that might be changed overtime. The sample of 220 poultry farmers was selected from a list of all firms with more than 1,000 layers in the Netherlands. Part of the results was that small firms who accepted the idea of innovation had a positive influence on performance expectations. In conclusion, the researchers suggested that personal characteristics of owner-managers influenced performance expectations of small firms. In addition, small firms would depend upon their customer's expectations for radical product innovations. They would respond to radical product innovations to extend their market opportunities.

Process Innovation

The other stream of innovation is process innovation. This study has subjects from many manufacturing firms. A key success was the firm's capacity to introduce the new process into the market. In addition, process innovation was one of the factors that had an impact on business performance (Hult, Hurley & Knight, 2004). Koellinger (2008) studied the relationship between technology, innovation, and firm performance by using empirical evidence from e-businesses in Europe. The empirical results found that the adoption of new technologies invented and produced elsewhere support process or product innovations in a firm that applied those innovations. Furthermore, innovations helped the investment on technology to affect a firm's performance. Their

study applied some factors like competition and customers, which were part of market orientation. Grinstein (2008) studied the effect of market orientation and its components on innovation consequences: a meta-analysis. The results found that both customers and competitor orientation could be applied for developing innovative products. Also inter-functional coordination presented a positive relationship with innovation. The researcher concluded that market orientation supported innovation particularly in a competitive environment. The reason was that firms could apply market orientation to encourage innovation for a competitive advantage over their competitors. In addition, this study found technology turbulence has negative consequences affecting the relationship between market orientation and innovation.

Some studies found that innovation would not last long, due competition and new entrants. Koellinger (2008) stated that the relationship between innovation and profit was more complicated because of competition. In addition, innovation of a firm must be dynamic and modified continuously as new innovation could simply be imitated by other firms. Teece (2006) stated that the firm that introduced new innovations to the market would have no advantage if other firms applied similar processes for the same products.

In terms of culture, Vecchi and Brennan (2009) applied Hofstede's cultural dimension framework in a survey administered across 24 countries. The purpose was to examine innovation in manufacturing firms and to test the validity of "culture-specific" that constructed innovation performance in international manufacturing. The findings was that all four dimensions of culture included individualism, power distance, uncertainty avoidance, and masculinity affected innovation inputs; and both process

innovations and innovation performance were affected by three cultural dimensions: power distance, individualism, and masculinity.

Some researchers focused on the change of technology such as the study of Yamin et al. (1997). They found that rapid change of technology encouraged management to create more innovation concerning product lines, management practices, and production processes. They studied the relationship between competitive strategy, organizational innovation, and organizational performance among Australian manufacturing companies. The results indicated a strong relationship between cost leadership, administrative innovation, process innovation, and performance. Furthermore, administrative innovation was strongly related to both product and process innovation. This implies an important role for senior management concerning innovation.

In conclusion, the above literature expresses the market orientation occurring in various situations. The literature derived from many researches may have some congruent and some found differences. Moreover, some studies that were reviewed are emphasized in innovations that are separated into product and process innovation. Those reviews support this study in the case of literature setting up the proposition for the hypotheses. The other main body of the review was conducted to express how to measure a firm's performance. The studies mentioned above indicate the importance of financial data, even if there are other concepts to measure a firm's performance. All literature reviews above were used to adopt the research methodology in the following chapter.

CHAPTER 3

RESEARCH METHODOLOGY

This chapter presents the appropriate methodology applied for collecting and analyzing the data. This study aims to investigate the relationship between market orientation and business performance through innovations including the relationship between innovations and organizational performance of auto parts and accessory companies in Thailand. Market orientation's component includes customer orientation, competitor orientation, and interfunctional coordination. Innovation is how the customer derived benefits from products launched into the market. Business performance can be measured from financial data of auto parts and accessories companies. The researcher investigates the conclusions based upon the concept of market orientation studies. A member of the Board of Directors in each firm who is a key informant of the auto parts and accessories company was investigated. They were asked to fill out the questionnaires concerning their firm's market orientation.

Theoretical Framework

The researcher performed this study by concentrating on marketing procedures that belong to small and medium enterprises operated internationally. The paradigm of this study is based upon marketing procedures of firms that have transactions with foreign firms. According to Narver and Slater (1990), the component of market

orientation includes customer orientation, competitor orientation, and interfunctional coordination. These components suggest that customer (target buyers) orientation knowledge of the customer needs and creating superior value for them. Competitor orientation means understanding the seller's short term strengths and weaknesses, long term capabilities and strategies that are the heart of competitors, and interfunctional coordination comprising the business's coordinated efforts to utilize the resources of the firm in creating superior value to targeted buyers. Those components of market orientation will be observed as independent variables that are expected to have an impact on the performance of business firms. In addition, the role of those independent factors will perform through the innovations.

According to Ledwith and O'Dwyer (2008), business performance can be identified as organizations that can better satisfy customers by market orientation, tracking, and responding to customer needs and preferences. Moreover, Slater and Narver (1990) asserted that market orientation is an important antecedent to encourage business performance. The framework of this study will indicate the relationship flow of market orientation to the business performance, accompanied with innovation.

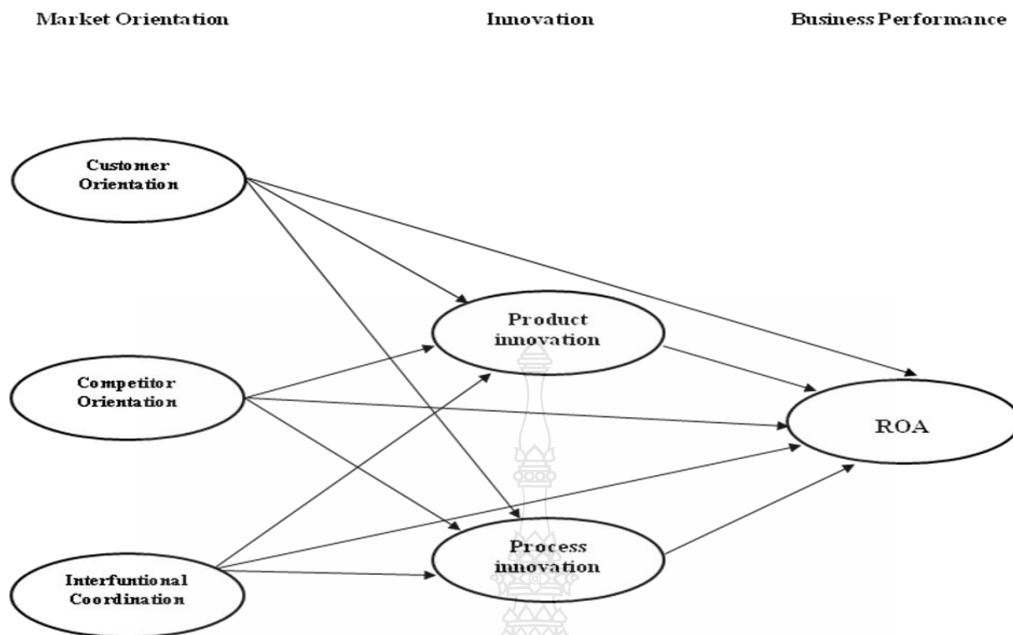


Figure 3.1 conceptual framework

From the conceptual framework, the following research questions are asked:

1. Does customer orientation have an effect on business performance (return on asset)?
2. Does customer orientation have an effect on business performance through innovation (product and process)?
3. Does competitor orientation have an effect on business performances (return on asset)?
4. Does competitor orientation have an effect on business performance through innovation (product and process)?
5. Does interfunctional coordination have an effect on business performances (return on asset)?

6. Does interfunctional coordination have an effect on business performance through innovation (product and process)?

Research Design

To achieve the results in responding to the purpose, the study is designed on account of appropriate methodology from the selection of the subjects, sample size, instrument, data collection, and statistical analysis. In general, the subjects of this study are members of the Board of Directors in the auto parts and accessories of small and medium enterprises (SME's) in Thailand, because they exhibit the overall image of management and strategy of their firms, especially market orientation. This study uses survey research with structured questionnaires as the key instrument in assessing the data concerning market orientation and innovation. Close-ended questionnaires are used for collecting data in the survey procedure; the level of measurement falls into interval scales. For assessing business performance, the researcher used the data from Business Online Public Company Limited (BOL). The overall research design in detail is explained in the following sections.

Selection of the Subjects

This study aims at investigating the auto parts and accessories SME's in Thailand. The population is small and medium enterprises (SME's) manufacturing auto parts and accessories in Thailand. However, those small and medium enterprises

(SME's) are operated in various forms. Some may not operate in a system and may not even operate under provision of law. The sampling frame is the list of all firms that are ensured to operate systematically under full provisions of law.

The list of all firms in the Thai Auto Parts Manufacturer's Association (TAPMA) is selected as the sampling frame because it produced automobile parts and accessories and exports to other countries. Moreover, TAPMA was established under the approval of the Ministry of Commerce in June 29, 1978. It is a union of auto parts manufacturing firms from the private sector to serve as the central voice for auto parts industrialists in the country in order to protect, support, and develop Thai industry. In addition, it is also aimed at detecting and addressing problems that hinder the automobile industry's development in terms of production technology efficiencies, raw material import difficulties, and workforce challenges, and especially attracting and developing skilled laborers and engineers. The companies of TAPMA's membership are manufacturers of automotive parts and accessories approved by the committees of TAPMA. There are 578 companies in TAPMA. Therefore, the population of this study is 578.

Sample Size

According to Kline (1998), Structural Equation Modeling (SEM) depends on tests that are sensitive to sample size. However, there are several researchers who conducted only a sample size of SEM. Bentler and Chou (1987) suggested that the sample size is 5 subjects per variable for normal data. Loehlin (1992) pointed out that the sample size should be at least 100 cases but preferably 200 cases. For ad hoc rules

of thumb, the sample size requires 10 observations per indicator for sufficiency. In addition, several researchers recommended that the sample size should range from 150 to 250. According, this study requires more than 200 samples size, when considering the questions in the instrument.

The total samples required to fulfill the statistical requirement are more than 200. The unit of analysis is companies that are members of the Thai Auto Parts Manufacturers Association (TAPMA), since they can access superior information about most aspects of auto parts and accessories in Thailand. In selecting the size of the sample, it is important that the units of analysis appear to be homogeneity since the members of the Thai Auto Parts Manufacturers (TAPMA) are of the same industry, similarly level of company size and number of employees, and others. The TAPMA has a total membership of 578 companies used as the sampling frame.

Instrumentation

As mentioned earlier, the unit of analysis is SME companies that are members of the Thai Auto Parts Manufacturers Association (TAPMA). Furthermore, the information needed to collect data from those subjects is composed of various items such as market orientation, innovations, and business performance. This study adapted the instrument from various sources constructed by former well known researchers to cover information needed for figuring out the research hypotheses. Furthermore, the questionnaires were conducted by intensive literature review and the guidance of experts. The instrument was mainly adopted from questionnaires constructed by Narver and Slatter (1990). This section is for investigating market orientation in considering

innovations that include product innovation and process innovation. The instrument constructed by Lukas and Ferrell (2000) is adapted for collecting information on product innovation and instruments constructed by Park, Hartley and Wilson (2001), and Quesada, Syamil and Doll (2006) are applied for collecting data concerning process innovation. According to information relating to business performance, the financial information is used to summarize the differences. A financial ratio as return on asset (ROA) was considered.

In considering the detail of instrument used for collecting data, the following information is explained for each group of questions.

Market Orientation

The questionnaire of Narver and Slater (1990) includes 15 items of questions on market orientation. It is divided into three dimensions of investigation. First, the questions focus on customer orientation which is composed of 6 items concentrated on customer satisfaction. Second, the competitor orientation is determined. There are 4 questions that consider how to respond effectively to competitors. Finally, inter-functional coordination is considered using 5 items to investigate how interfunctional is effective in terms of cooperation between each function. Each item was scored on a 7-point scale, ranging from “strongly disagree” to “strongly agree”. All items included:

Customer orientation

1. We closely monitor and assess our level of commitment in serving customer needs.

2. Business strategies are driven by the goal of increasing customer value.
3. Our Competitive advantage is based on understanding customer needs.
4. Our business objectives are driven by customer satisfaction.
5. We frequently measure customer satisfaction.
6. We pay close attention to after-sales-service.

Competitor orientation

7. In our organization, our salespeople share information about competitor information.
8. We respond rapidly to competitive actions.
9. Top management regularly discusses competitors' strength and weaknesses.
10. Customers are targeted when we have an opportunity for competitive advantage.

Interfunctional coordination

11. Our top managers from each business function regularly visit customers.
12. Information about customers is freely communicated throughout our organization.
13. Business functions within are integrated to serve the target market needs.
14. Our manager understands how employees can contribute to the value of customers.
15. We share resources with other business units.

Product Innovation

The other parts of instrument that investigate product innovation are adopted from Lukas and Ferrell (2000). Product innovation is separated into three basic categories that are line extensions, “me-too” products, and “new-to-the-world” products. It includes 2 questions focused on new products in relationship with the market. Each item was scored on a 7-point scale, ranging from “strongly disagree” to “strongly agree”. All items included:

1. We have the products that have been very new to your organization but not new to your market.
2. We have the products that are new to your organization and new to your market.

Process Innovation

For process innovation, the questions are adopted from Park, Hartley, and Wilson (2001) which include 5 questions concerning changing the intra-process and 7 questions adopted from Quesada, Syamill and Doll (2006) based upon a 7-point scale, ranging from “strongly disagree” to “strongly agree” for each item. Those 7 questions focus on process in relationship with the performance. All items included:

1. We continuously improved processes in our plant.
2. Customers are actively involved in our new product development process.
3. For all our processes, reducing cycle time is a priority item.
4. Defect rates are found for all processes.
5. Our company is concerned with reducing cycle time for all processes.

6. Process design is done at the same time with product design.
7. Product development group members came from various disciplines.
8. Process innovation is developed by a group of employees from various disciplines.
9. Employees from various disciplines are involved in process innovation from the early stages.
10. Process innovation provided high-quality products.
11. Process innovation improved our cost performance.
12. Process innovation supported our product development schedules on time.

Business Performances

In determining business performance, the data was separately collected from other sources. Business Performances were measured by using secondary data from Business Online Public Company Limited (BOL). BOL is the company that provides information for business deciding. The information of BOL comes from the Department of Business Development, Ministry of Commerce. Business performance was measured by return on Assets (ROA). A key figure is viewed as a reflective indicator of business performance with each of the business performance measures. Return on Assets (ROA) was detected as a very significant performance measurement in marketing and management (Jacobson, 1992). It was measured as net profit before taxes plus interest payments (Sandvik & Sandvik, 2003). Narver and Slater (1990) said that the performance variable in our analysis is a business's return on assets (ROA) because the principal of return on assets (ROA) served market segments and related to

return on assets (ROA) of all other competitors. In addition, strategic planning in the automotive industries used return on assets (ROA) to measure the process improvement techniques and involvement of customers and suppliers (Park, Hartley & Wilson, 2001). Return on assets (ROA) was selected to figure out the result. In this study, the researcher uses the financial data from Business Online Public Company (BOL) in 2009 for ROA.

To complete the instrument, the adopted questionnaires are translated from English to Thai and translated back to English to ensure the same meaning of content was conveyed to the subjects. Moreover, those questions are validated and made reliable by other researchers. However, to ensure validity in this study, one group of experts was used to comment on the items along with the operational definition of its dimension in the validity investigation form. The Validity investigation form is composed of three columns (congruent, not sure, and not congruent) in which each expert has to place their comment. The “congruent” means the questions are corresponding with the meaning of the item and its dimension. The “not sure” means the questions are not exactly corresponding with the meaning of the item and its dimension. The “not congruent” means the questions are not corresponding with the meaning of the item and its dimension. If the experts comment in the column “not sure” and “not congruent”, they are asked to recommend how to correct the related question. After, the researcher reviews the questions again a draft of the instrument is completed.

The survey identifies the relationship between innovations, business performances, customer orientation, competitor orientation and inter-functional coordination. The information was collected by using a seven-point rating scale

(1=strongly disagree to 7=strongly agree) that indicated varying degrees of agreement to statements about the variables to measure responses. For reliable testing, 30 units of analysis were used. The results found that the Cronbach Alpha score is 0.96.

Table 3.1 Operationalization of the Independent, Mediating and Dependent

Variables

Independent Variables

Conceptual Definition	Operational Definition	Expectation	Measurement Scale
Customer Orientation	Customer orientation is the understanding the consumer needs that are target buyers and creates superior value to them.	Effect on Business Performance (ROA)	Interval Scale
Competitor Orientation	Competitor orientation means the understanding of a seller about the short term strengths and weaknesses, long term capabilities and strategies.	Effect on Business Performance (ROA)	Interval Scale
Interfunctional Coordination	Interfunctional coordination means the demonstrating willingness by members of different functional areas of an organization to communicate and work together to the creation of value to target buyers.	Effect on Business Performance (ROA)	Interval Scale

Mediating Variables

Conceptual Definition	Operational Definition	Expectation	Measurement Scale
Product Innovation	Product innovation defined as the firm's products that are developed and commercialized to customers in acquiring and using them.	Effect on Business Performance (ROA)	Interval Scale
Process Innovation	Process innovation means the firm introduced some important modification in the production process such as new machines or new methods of organization.	Effect on Business Performance (ROA)	Interval Scale

Dependent Variables

Conceptual Definition	Operational Definition	Expectation	Measurement Scale
Business Performance	Business performance is focused on profitability to survive and financial efficiency such as ROI, ROA, and sales growth is used as an ultimate outcome.	Effected by Customer Orientation, Competitor Orientation, Interfunctional Coordination, Product Innovation and Process Innovation	Ratio Scale

The Data Collection

The period of collecting data was during January –March 2011. The stage of the data collection was divided into two stages. First, this study employed a questionnaire survey and was distributed to subjects who worked for the auto part and accessory firms that are members of the Thai Auto Parts Manufacturers Association (TAPMA). The unit of analysis is companies that are members of the Auto Parts Manufacturers Association (TAPMA). The questionnaires were sent to companies which were listed as members of the Board of Directors. Therefore, a total of 578 copies of the questionnaire were distributed to every firm that is member of TAPMA. Return envelopes were accompanied with the questionnaires to ensure the respondents of the confidentiality of the data. Respondents were requested to complete the survey within one month. Second, until the end of the collection period, the researcher followed up with the respondents who did not return the questionnaires. The follow up was conducted until the numbers of the returned questionnaires meet the minimum required sample size of 200.

Data Processing and Analysis

Data processing began by rechecking for completion of the instruments collected from the subjects. The purpose was to summarize that the content could be described by the quantitative method and to answer the research questions. In addition, the recheck finalized the final number of usable questionnaires from missing or

uncompleted sets of data. The completed questionnaires were then processed to analyze the data.

In determining the statistics to be used to answer the research questions and provide the hypotheses, the current study appropriately used the statistical data. The process of data analysis involves scale validation, scale dimensionality, and confirmatory factor analysis. Examination of reliability, validity, and confirmatory of the measures are used in the analysis before testing the hypotheses. For the hypothesis testing procedure, structural equation modeling (SEM) is the tool for analyzing the data. The research conjectured the statement of hypothesis and the image of what the sampling solution of the mean would be if the hypotheses were a true statement of the nature of the population. The research took an actual sample and calculated the sample mean. A conclusion may be drawn against means difference in case the observed sample differs from the expected value. However, these results are improbable (or probable) when the standard or decision rules for determining the rejection on the null hypothesis and the acceptance of the alternative hypothesis is set up against certain levels of significance. A null hypothesis is a conservative statement which communicates the notion that any change from what has been thought to be true or observed in the past will be entirely due to random error. The alternative hypothesis is the opposite of null hypothesis. The null hypothesis is symbolized as H_0 and the alternative hypothesis is symbolized as H_a . The purpose of hypothesis testing is to determine which one of the hypotheses is accepted. The significance level is a critical probability in choosing between the null hypothesis and the alternative hypothesis. The level of significance determines the probability level.

The determining level of significant for the hypotheses testing is 0.05. If the probability of the data is smaller than the level of significance (0.05), the null hypothesis is rejected. If the probability of the data is greater than the level of significance (0.05), the null hypothesis is accepted.

Table 3.2 Process and Technique of Hypothesis Testing

Hypotheses	Description	Analysis Technique	Selection Criteria
H1	Customer orientation has an effect on business performance (ROA).	Structural equation modeling (SEM) using AMOS	<p>If $p > 0.05$, the null hypothesis is accepted.</p> <p>If $p < 0.05$, the null hypothesis is rejected.</p> <p>If regression weight is +, there is a positive relationship between two variables.</p> <p>If regression weight is -, there is a negative relationship between two variables.</p>

Table 3.2 (Continued)

Hypotheses	Description	Analysis Technique	Selection Criteria
H2	Customer orientation has an effect on product innovation.	Structural equation modeling (SEM) using AMOS	<p>If $p > 0.05$, the null hypothesis is accepted.</p> <p>If $p < 0.05$, the null hypothesis is rejected.</p> <p>If regression weight is +, there is a positive relationship between two variables</p> <p>If regression weight is -, there is a negative relationship between two variables.</p>

Table 3.2 (Continued)

Hypotheses	Description	Analysis Technique	Selection Criteria
H3	Customer orientation has an effect on process innovation.	Structural equation modeling (SEM) using AMOS	<p>If $p > 0.05$, the null hypothesis is accepted.</p> <p>If $p < 0.05$, the null hypothesis is rejected.</p> <p>If regression weight is +, there is a positive relationship between two variables.</p> <p>If regression weight is -, there is a negative relationship between two variables.</p>

Table 3.2 (Continued)

Hypotheses	Description	Analysis Technique	Selection Criteria
H4	Customer orientation has an indirect effect on ROA through product innovation.	Structural equation modeling (SEM) using AMOS	<p>If $p > 0.05$, the null hypothesis is accepted.</p> <p>If $p < 0.05$, the null hypothesis is rejected.</p> <p>If regression weight is +, there is a positive relationship between two variables.</p> <p>If regression weight is -, there is a negative relationship between two variables.</p>

Table 3.2 (Continued)

Hypotheses	Description	Analysis Technique	Selection Criteria
H5	Customer orientation has an indirect effect on ROA through process innovation.	Structural equation modeling (SEM) using AMOS	<p>If $p > 0.05$, the null hypothesis is accepted.</p> <p>If $p < 0.05$, the null hypothesis is rejected.</p> <p>If regression weight is +, there is a positive relationship between two variables.</p> <p>If regression weight is -, there is a negative relationship between two variables.</p>

Table 3.2 (Continued)

Hypotheses	Description	Analysis Technique	Selection Criteria
H6	Competitor orientation has an effect on business performance (ROA).	Structural equation modeling (SEM) using AMOS	<p>If $p > 0.05$, the null hypothesis is accepted.</p> <p>If $p < 0.05$, the null hypothesis is rejected.</p> <p>If regression weight is +, there is a positive relationship between two variables</p> <p>If regression weight is -, there is a negative relationship between two variables.</p>

Table 3.2 (Continued)

Hypotheses	Description	Analysis Technique	Selection Criteria
H7	Competitor orientation has an effect on product innovation.	Structural equation modeling (SEM) using AMOS	<p>If $p > 0.05$, the null hypothesis is accepted.</p> <p>If $p < 0.05$, the null hypothesis is rejected.</p> <p>If regression weight is +, there is a positive relationship between two variables.</p> <p>If regression weight is -, there is a negative relationship between two variables.</p>

Table 3.2 (Continued)

Hypotheses	Description	Analysis Technique	Selection Criteria
H8	Competitor orientation has an effect on process innovation.	Structural equation modeling (SEM) using AMOS	<p>If $p > 0.05$, the null hypothesis is accepted.</p> <p>If $p < 0.05$, the null hypothesis is rejected.</p> <p>If regression weight is +, there is a positive relationship between two variables</p> <p>If regression weight is -, there is a negative relationship between two variables.</p>

Table 3.2 (Continued)

Hypotheses	Description	Analysis Technique	Selection Criteria
H9	Competitor orientation has an indirect effect on ROA through product innovation.	Structural equation modeling (SEM) using AMOS	<p>If $p > 0.05$, the null hypothesis is accepted.</p> <p>If $p < 0.05$, the null hypothesis is rejected.</p> <p>If regression weight is +, there is a positive relationship between two variables.</p> <p>If regression weight is -, there is a negative relationship between two variables.</p>

Table 3.2 (Continued)

Hypotheses	Description	Analysis Technique	Selection Criteria
H10	Competitor orientation has an indirect effect on ROA through process innovation.	Structural equation modeling (SEM) using AMOS	<p>If $p > 0.05$, the null hypothesis is accepted.</p> <p>If $p < 0.05$, the null hypothesis is rejected.</p> <p>If regression weight is +, there is a positive relationship between two variables</p> <p>If regression weight is -, there is a negative relationship between two variables.</p>

Table 3.2 (Continued)

Hypotheses	Description	Analysis Technique	Selection Criteria
H11	Interfunctional coordination has an effect on business performance (ROA).	Structural equation modeling (SEM) using AMOS	<p>If $p > 0.05$, the null hypothesis is accepted.</p> <p>If $p < 0.05$, the null hypothesis is rejected.</p> <p>If regression weight is +, there is a positive relationship between two variables.</p> <p>If regression weight is -, there is a negative relationship between two variables.</p>

Table 3.2 (Continued)

Hypotheses	Description	Analysis Technique	Selection Criteria
H12	Interfunctional coordination has an effect on product innovation.	Structural equation modeling (SEM) using AMOS	<p>If $p > 0.05$, the null hypothesis is accepted.</p> <p>If $p < 0.05$, the null hypothesis is rejected.</p> <p>If regression weight is +, there is a positive relationship between two variables.</p> <p>If regression weight is -, there is a negative relationship between two variables.</p>

Table 3.2 (Continued)

Hypotheses	Description	Analysis Technique	Selection Criteria
H13	Interfunctional coordination has an effect on process innovation.	Structural equation modeling (SEM) using AMOS	<p>If $p > 0.05$, the null hypothesis is accepted.</p> <p>If $p < 0.05$, the null hypothesis is rejected.</p> <p>If regression weight is +, there is a positive relationship between two variables.</p> <p>If regression weight is -, there is a negative relationship between two variables.</p>

Table 3.2 (Continued)

Hypotheses	Description	Analysis Technique	Selection Criteria
H14	Interfunctional coordination has an indirect effect on ROA through product innovation.	Structural equation modeling (SEM) using AMOS	<p>If $p > 0.05$, the null hypothesis is accepted.</p> <p>If $p < 0.05$, the null hypothesis is rejected.</p> <p>If regression weight is +, there is a positive relationship between two variables.</p> <p>If regression weight is -, there is a negative relationship between two variables.</p>

Table 3.2 (Continued)

Hypotheses	Description	Analysis Technique	Selection Criteria
H15	Interfunctional coordination has an indirect effect on ROA through process innovation.	Structural equation modeling (SEM) using AMOS	<p>If $p > 0.05$, the null hypothesis is accepted.</p> <p>If $p < 0.05$, the null hypothesis is rejected.</p> <p>If regression weight is +, there is a positive relationship between two variables.</p> <p>If regression weight is -, there is a negative relationship between two variables.</p>

CHAPTER 4

RESEARCH FINDING

Market orientation is well recognized in marketing area. It is the core factor of this study. The component of market orientation applied by this study is composed of customer orientation, competitor orientation, and interfunctional coordination (Naver and Slater, 1990). The researcher intends to figure out the outcome of the market orientation through innovation as a mediating factor. According to the outcome of the relationship, business performance is measurable factor to indicate results of the outcome. Since business performance in this study is applied by the return on assets. In addition, innovations that play a crucial role as mediating include product innovation and process innovation. The variables of this study include three factors from market orientation, two factors from innovation that perform as mediating, and two factors regarding business performance. According to the factors mention above, the framework of this study has to apply Structural Equation Modeling (SEM) as an important tool for answering the research questions. In considering structural equation modeling, the market orientation has performed as exogenous in the equation. Consequently, business performance is endogenous in the equation of this study. The population of this study is automotive enterprises that have operated in automotive parts and accessories businesses. The sampling frame is considered from companies that are members of the Thai Auto Parts Manufacturers Association (TAPMA). Therefore, this chapter illustrates the information of the data preparation, demographic summaries, and

structural equation model analysis. Finally, the results of the hypotheses testing are illustrated through the analysis of the structural equation model.

Data Preparation

This stage directly concerns the arrangement of all data. It includes data screening and editing, data coding and entry, and treatment of the missing data. The details are depicted below.

Data Screening and Editing

In order to derive the completed data, the following process of data gathering was conducted. In the beginning, 578 questionnaires were distributed to auto parts and accessory firms that are the members of the Thai Auto parts Manufacturers Association (TAPMA). After one month, 169 questionnaires were returned. The subjects that did not return the questionnaires had their addresses rechecked by telephone. Then, 409 questionnaires were redistributed to those firms again. Those subjects were requested to complete and return the questionnaires within one month. At the end of the period, 129 questionnaires were returned. After two months, there was a total of 298 returned questionnaires. The response rate was 51.55%. In the second step of data management, all returned questionnaires of each firm were searched for their financial statement by using the financial data from Business Online Public Company Limited (BOL). There were 211 firms from 298 firms that had the completed financial statement. Thus, 211 firms were analyzed.

Data Coding and Entry

All variables in this study are named by using relevant abbreviations in order to simplify understanding and interpretation. All variables coding are illustrated in Table 4.1. After, SPSS was used to analyze the items that assigned a number.

Table 4.1 Abbreviation of Constructs

Construct Group	Construct	Abbreviation	Type of variable
Market	Customer Orientation	cus/o	Independent variable
Orientation	Competitor Orientation	com/o	Independent variable
	Interfunctional	inter/co	Independent variable
Innovation	Coordination	protn	Mediator
	Product Innovation		
Business	Process Innovation	prosn	Mediator
Performance	Return on Asset	roa	Dependent variable

Treatment of the Missing Data

The missing data in this study comes from two types of the questionnaires. First, it is the questionnaires that did not have financial statements from the Business Online Public Company Limited (BOL). Second, it is the questionnaires that did not have a completed financial statement in 2551 and 2552. Therefore those questionnaires had to be excluded from the investigation.

Demographic Summary

In this stage, the subject's demographic variables were summarized by descriptive statistics. They were described in terms of category, frequency, and respondent percentage. The conclusions are shown in the table below:

Table 4.2 Summary of the Demographics

Demographic	Category	Frequency	Respondent Percentage
Subject	Total	211	
Period of operation	Less than five years	7	3.3
	5-15 years	92	43.6
	16- 25 years	60	28.4
	More than 25 years	52	24.6
Number of employees	less than 50 people	30	14.2
	50-100 people	40	19.0
	101-200 people	44	20.9
	more than 200 people	97	46.0
Registered capital	less than 5 million	19	9.0
	5,000,000-14,999,999	48	22.7
	15,000,000-29,999,999	19	9.0
	30,000,000-49,999,999	15	7.1
	50,000,000-99,999,999	33	15.6
	100,000,000-149,999,999	20	9.5
	150,000,000-200,000,000	13	6.2
	more than 200 million	44	20.9
Type of product produced	Engine parts	77	36.5
	Body parts	39	18.5
	Transmission /suspension	85	40.3
	Accessory	23	10.9
	Others	69	32.7

The information of the selected subjects which is the automotive accessory and parts firm can be determined in four demographic factors. First, period of operation of the subjects were considered. The period of operation is distinguished into four classifications as the firms that have operated less than 5 years, between 5 – 15 years, 15-25 years, and more than 25 years. There are only 3.3% of the total subjects that have operated less than 5 years. The highest range of operation of the subjects is 15-25 years, with 43.6%. The subjects that have operated more than 25 years are 24.6%. In considering the number of employees, the highest percentage of employees that the companies employed is more than 200 employees which is 46.0%. The least percentage of number of employees employed by the companies is 14.2% of less than 50 persons. The companies that employ 50-100, and 101-200 are 19.0% and 20.9% respectively. For the registered capital of the subjects, this factor was divided into 8 levels from less than 5 million baht to more than 200 million baht. The highest percentage of subjects is 22.7% having a registered capital between 5,000,000 -14,999,999 million baht. The lowest percentage of subjects is 6.2% having a register capital between 150,000,000 million – 200,000,000 million baht. However, the percentage of register capital of subjects is not a gradual slope. The last factor to be considered concerning demographic variables of the subjects is the type of product produced. Each subject may have more than one type of product that are composed of engines parts, body parts, transmission and suspensions, accessories, and others. The highest percentage of the type of products have produced is transmissions and suspensions which is 40.3%. The second ranking belongs to engine parts which is 36.5%. According to body parts and

accessories, the percentages are 18.5, and 10.9 respectively. The others types of products refer to miscellaneous products or some small pieces of a product that has not been counted in each category. It represents 32.7% of the overall subjects.

Hypothesis Testing

The structural equation modeling (SEM) is performed to test the hypotheses in this study, since it includes several different statistical techniques such as confirmatory factor analysis (CFA), path analysis, multiple regression, and analysis of variance.

SEM analysis consists of two components. These are: measurement model and structural model. The measurement model is assessed by using Confirmatory Factor Analysis (CFA). CFA is used to purify each latent construct and measurement model of each exogenous and endogenous constructs. In this stage, the construct validity is assessed by the method of parameter estimation in each construct measurement model. For the structural model, it is assessed by nomological validity and provided to capture the estimation of the measurement models and their structural relations. Additionally, SEM needs to analyze the constructs by measuring of construct reliability and the average variance extracted measure (Hair, Anderson, Tatham, & Black 1995). The reliability of a construct derives from computing the composite reliability (CR) of a construct (Fornell and Larcker, 1981). The average variance extracted (AVE) illustrates the overall amount of variance in the indicators by the latent construct. High AVE (0.5 or more) is assessed the evidence for convergent validity of the construct.

Narver and Slater (1990) is a pioneer in market orientation concept and identified three behavioral concepts of market orientation as: customer orientation, competitor orientation, and interfunctional coordination. They developed a valid measure of market orientation that was later used to measure market orientation. This study adapted their measurement scale to assess the market orientation. According to the review, market orientation is a latent construct that is composed of three dimensions: customer orientation, competitor orientation, and interfunctional coordination. There are 15 measurement items used to measure the three dimensions of the market orientation construct. Customer orientation dimension is measured by 6 measurement items. It is shown as cus/o1 to cus/o6. Competitor orientation dimension is measured by 4 measurement items. It is shown as com/o1 to com/o4. Interfunctional coordination dimension is measured by 5 measurement items. It is shown as inter/co1 to inter/co5. Product innovation construct is adopted from Lukas and Ferrell (2000). It is measured by 2 measurement items as protn1 and protn2. The last construct is process innovation. The questions are adopted from Park Hartley and Wilson (2001) and Quesada, Syamill and Doll (2006). It is measured by 12 measurement items: prosn1, prosn2, prosn3, prosn4, prosn5, prosn6, prosn7, prosn8, prosn9, prosn10, prosn11 and prosn12. All dimensions or latents are assessed by confirmatory factor analysis.

Composite Reliability and Average Variance Extracted

Structural Equation Modeling Analysis is often employed to assess the constructs. There are two commonly measures of construct reliability and the average variance extracted measure. They were assessed to ensure that all measures were internally consistent as reliability and validity. It means that the convergent and discriminant validity of constructs were examined. To test the reliability of the construct, composite reliability and average variance extracted were used. Composite reliability (CR) is a measure of the overall reliability of a collection of heterogeneous but similar items (Chen and Singpurwalla, 1996). Average variance extracted (AVE) is the variance in the indicators explained by the common factor, average trait-related variance extracted. Hair et al (1998) recommended that composite reliability should be more than 0.70 and average variance extracted should be more than 0.50. Moreover, Anderson and Gerbing (1988) stated that average variance extracted above 0.50 is indicated as convergent validity.

Before assessing the constructs by composite reliability (CR) and average variance extracted (AVE), each item should be assessed. Nunnally (1978) recommended that the value of loading should be 0.60. Therefore, each item should have a minimum factor loading of 0.60 on its hypothesized construct. The item that is lower than 0.60 will be dropped.

Table 4.3 Outer loading of Market Orientation

Items	1 st testing	2 nd testing
cus/o1	0.752	0.753
cus/o2	0.816	0.815
cus/o3	0.752	0.752
cus/o4	0.726	0.726
cus/o5	0.742	0.742
cus/o6	0.727	0.725
com/o1	0.674	0.701
com/o2	0.768	0.771
com/o3	0.761	0.778
com/o4	0.539	
inter/co1	0.638	0.637
inter/co2	0.713	0.711
inter/co3	0.777	0.779
inter/co4	0.787	0.788
inter/co5	0.772	0.773

Table 4.4 Outer loading of Innovation

Items	1 st testing	2 nd testing	3 rd testing	4 th testing	5 th testing	6 th testing	7 th testing
protn1	0.873	0.873	0.876	0.877	0.872	0.866	0.864
protn2	0.799	0.799	0.797	0.795	0.800	0.806	0.807
prosn1	0.621	0.621	0.620	0.607	0.587	0.560	
prosn2	0.543	0.542	0.532				
prosn3	0.610	0.610	0.602	0.596	0.548		
prosn4	-0.009						
prosn5	0.580	0.580	0.576	0.576			
prosn6	0.452	0.452					
prosn7	0.707	0.707	0.701	0.697	0.714	0.730	0.739
prosn8	0.796	0.796	0.806	0.814	0.841	0.877	0.898
prosn9	0.746	0.746	0.755	0.764	0.796	0.834	0.860
prosn10	0.803	0.803	0.805	0.805	0.797	0.772	0.746
prosn11	0.722	0.722	0.717	0.716	0.690	0.641	0.603
prosn12	0.773	0.773	0.775	0.777	0.764	0.727	0.695

From Table 4.3 and Table 4.4, items with loadings below 0.60 are withdrawn from the measurement models. These include com/o4 in case of market orientation and prosn1, prosn2, prosn3, prosn4, prosn5, prosn6 in case of innovation.

Table 4.5 Decisions on dropping items

Construct	Items	Questions	Decision
cus/o	cus/o1	We closely monitor and assess our level of commitment in serving customers' need.	Kept
	cus/o2	Business strategies are driven by the goal of increasing customer value.	Kept
	cus/o3	Our Competitive advantage is based on understanding customers' need.	Kept
	cus/o4	Our business objectives are driven by customer satisfaction.	Kept
	cus/o5	We frequently measure customer satisfaction.	Kept
	cus/o6	We pay close attention to after-sale-service.	Kept
com/o	com/o1	In our organization, our salespeople share information about competitor information.	Kept
	com/o2	We respond rapidly to competitive action.	Kept
	com/o3	Top management regularly discusses competitors' strength and weaknesses.	Kept
	com/o4	Customers are targeted when we have an opportunity for competitive advantage.	Dropped
inter/co	inter/co1	Our top managers from each business function regularly visit customers.	Kept
	inter/co2	Information about customers is freely communicated throughout our organization.	Kept
	inter/co3	Business functions within are integrated to serve the target market needs.	Kept
	inter/co4	Our manager understands how employees can contribute to the value of customers.	Kept
	inter/co5	We share resources with other business units.	Kept
protn	protn1	We have the products that have been very new to your organization but not new to your market.	Kept
	protn2	We have the products that have new to your organization and new to your market.	Kept

Table 4.5 (Continued)

Construct	Items	Questions	Decision
prosn	prosn1	We continuously improved processes in our plant.	Dropped
	prosn2	Customers are actively involved in our new product development process.	Dropped
	prosn3	For all our processes, reducing cycle time is a priority item.	Dropped
	prosn4	Defect rates are found for all processes.	Dropped
	prosn5	Our company concerned with reducing cycle time for all processes.	Dropped
	prosn6	Process design is done with product design at the same time.	Dropped
	prosn7	Product development group members came from various disciplines.	Kept
	prosn8	Process innovation is developed by a group of employees from various disciplines.	Kept
	prosn9	Employees from various disciplines are involved in process innovation from the early stages.	Kept
	prosn10	Process innovation provided high-quality products.	Kept
	prosn11	Process innovation improved our cost performance.	Kept
	prosn12	Process innovation supported our product development schedules on time.	Kept

Table 4.5 shows the questions that are decided on dropping items. The total number of questions that are kept is 22.

Table 4.6 Summary of Composite Reliability and AVE

Construct Group	Abbreviation	Composite Reliability	AVE
Market Orientation	cus/o	0.88	0.56
	com/o	0.79	0.56
	inter/co	0.85	0.54
Innovation	protn	0.82	0.69
	prosn	0.89	0.58

Table 4.6 shows the summary of composite reliability and AVE. All measurement models were considered to have satisfied the reliability.

The correlations among three constructs were 0.612 (covariance between customer orientation and competitor orientation), 0.669 (covariance between competitor orientation and interfunctional coordination), and 0.697 (covariance between customer orientation and interfunctional coordination). This indicates that all of the constructs support the distinctiveness of each of the constructs as uniquely present in the dimensions of market orientation.

Empirical Assessment of Proposed Models

This section illustrated the assessment of the model proposed in this study. The concepts in this study are market orientation, innovation, and business performance. The aim is to find out the relationship between market orientation and business performance through innovation. Market orientation is an independent variable that is

composed of customer orientation, competitor orientation, and interfunctional coordination. For innovation, it is the mediator that includes two components. These are product innovation and process innovation. According to business performance, it is return on asset (ROA). All structural models are shown below:

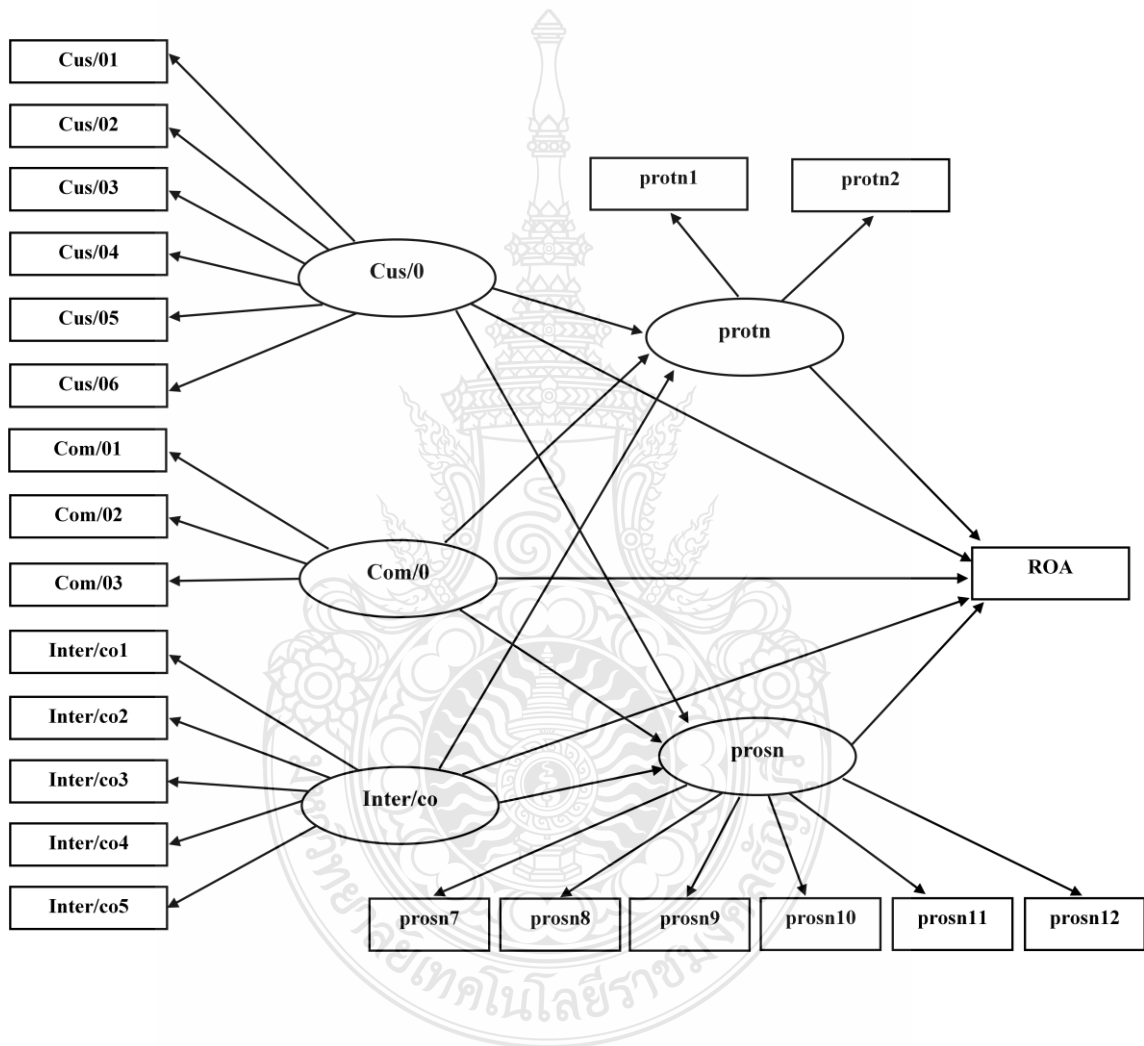


Figure 4.1 Structural Model of Study

Model assessment (fitting)

To evaluate the model, Chi-square test is accepted as a statistical test, since it is a direct function of the sample size. Additionally, there are other goodness-of-fit indexes that were used to evaluate the fit of the model. These are GFI, RMSEA, CFI, NFI, IFI, and TLI that were employed to assess the overall model fit. Below is a criteria of fit index in each statistical test.

- Chi-Square: Chi-Square is a basis of measure of fit that is used in the calculation of measure other fit. Kenny (2011) pointed that 75 to 200 cases in the models have a reasonable measure of fit in chi-square.
- RMSEA (Root Mean Square Error of Approximation):
The RMSEA is the most popular measure of model fit. Almost researcher suggested that RMSEA should have value between 0.08 and 0.10. If the RMSEA value is more than 0.10, it will be cutoff due to poor fitting models.
- CFI (Comparative Fit Index): CFI should have the value between 0.95 to 1.00 (Hu & Bentler, 1999).
- IFI (Incremental Fit Index): For a well fitting model, Arbuckle and Wothke (1999) recommended the value of IFI should close to 1.00
- TLI (Tucker-Lewis Index) : To reflex a good of model fit, TLI value should have between 0.95 to 1.00 (Byrne, 2001)
- GFI (Goodness of Fit Index) : Schumacher and Lomax (2004) suggested GFI should be greater than 0.90.

Since, the assessment of model fitting uses the six main fit indices: CMIN/DF, IFI, TLI, CFI, GFI and RMSEA. Therefore, they are used to examine the structural model fitting. In addition, the hypothesized model is estimated to investigate structural relationship.

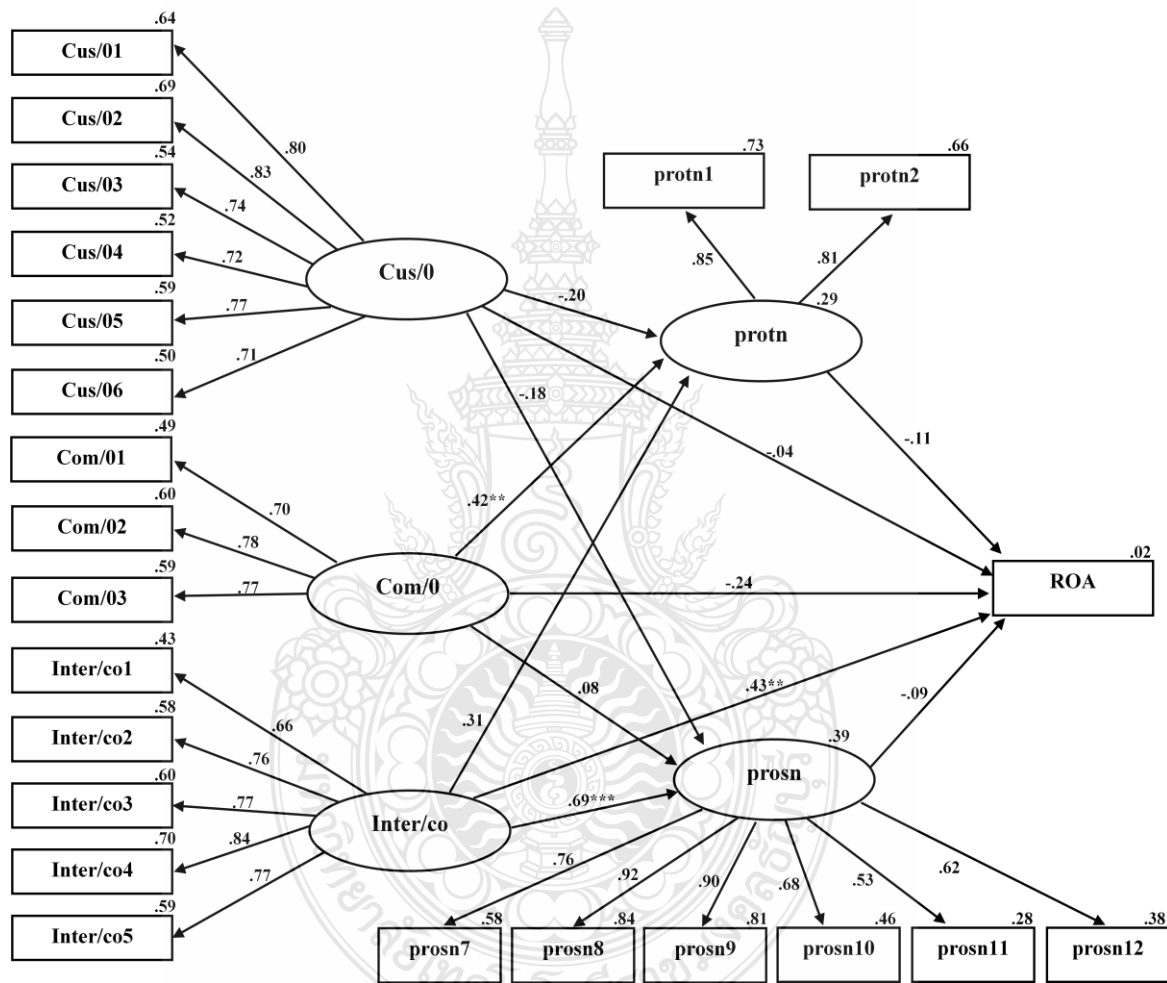


Figure 4.2 Structural Model of Return on Asset (ROA) for hypotheses testing

Table 4.7 Comparison of goodness-of-fit index of proposed model to the recommended points (ROA)

Goodness-of-fit indices	The cutoff point	Proposed model
CMIN/DF	< 3.00	1.209
IFI	0.90<IFI< 1.0	0.986
TLI	0.95<TLI<1.0	0.980
CFI	0.95<CFI<1.0	0.985
GFI	0.90<GFI<1.0	0.920
RMSEA	Less than 0.10	0.032

Table 4.7 shows the structural model fitting of ROA dependent variable. Moreover, figure 4.2 describes that two mediator do not significantly determine ROA, since product innovation has $t\text{-value} = -1.215$, $p\text{-value} = 0.224$ and process innovation has $t\text{-value} = -0.963$, $p\text{-value} = 0.335$.

Hypotheses testing

According to the study, the relationship of the framework is started from the market orientation to the firms' performance via innovation. The three components of market orientation mentioned earlier are customer orientation, competitor orientation, and interfunctional coordination, perform as exogenous and are hypothesized with the mediator that is composed of product and process innovation. The exogenous and the mediator are tested in relation with the endogenous of a firms' performance. The measures of market orientation (customer orientation, competitor orientation, and

interfunctional coordination) are derived from multiple-item scales tested that were adapted from Narver and Slater (1990). The scales are seven-point Likert ranging from “strongly disagree” to “strongly agree”. In considering innovation, it is composed of product innovation and process innovation. To measure product innovation, items were adapted from Lukas and Ferrell (2000) and process innovation items were adapted from Quesada, Syamil, and Doll (2006). Both product innovation and process innovation are measured by 7 scale items of question. Finally, those two stages are tested with the data concerning the firms’ performances.

The results of fifteen hypotheses testing are presented in the next stage. The proposed model depicts the structural relationship among all constructs. Then, Hypothesis 1 to Hypothesis 15 can be tested. All hypotheses were tested by analyzing the *t*-value at a level of significance at 0.05. Table 4.8 summarizes the relationship between the structural model and the results of parameter estimation and test of significance.

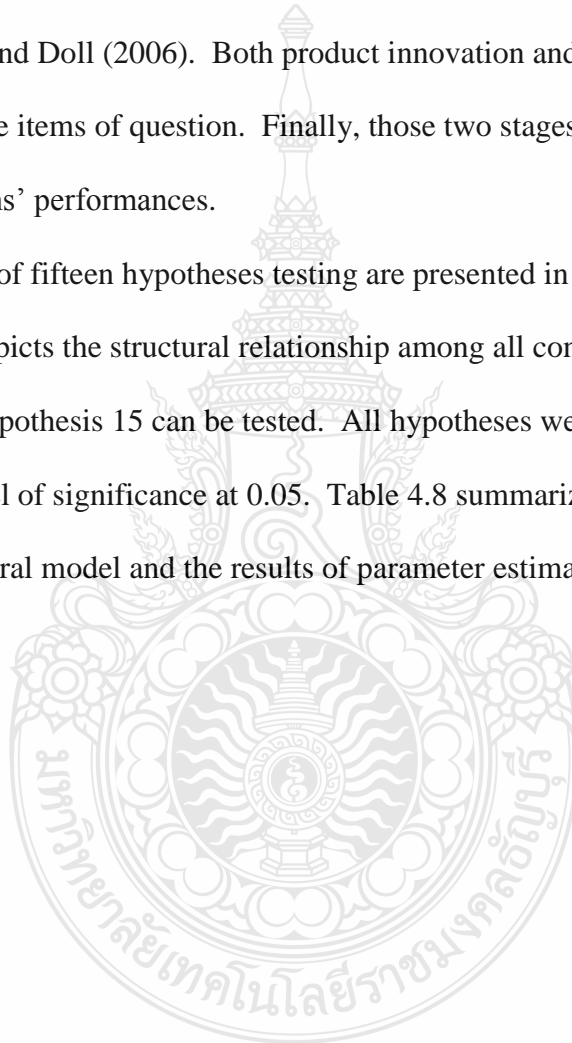


Table 4.8 Parameter estimation and the significant test of ROA

	Standardized Coefficients	S.E.	C.R.	<i>p-value</i>
protn<---cus/o	-0.197	0.163	-1.759	0.079
prosn<---cus/o	-0.177	0.106	-1.764	0.078
protn<---com/o	0.415	0.207	3.149	0.002
prosn<---com/o	0.081	0.116	0.796	0.426
protn<---inter/co	0.306	0.239	2.347	0.019
prosn<---inter/co	0.691	0.179	5.119	***
roa<--- com/o	-0.241	0.048	-1.920	0.055
roa<--- cus/o	-0.041	0.040	-0.361	0.718
roa<--- inter/co	0.433	0.065	2.956	0.003
roa<---protn	-0.114	0.023	-1.215	0.224
roa<---prosn	-0.091	0.032	-0.963	0.335

Note: 1. cus/o=customer orientation, com/o=competitor orientation,

inter/co=interfunctional

coordination, protn=product innovation, prosn=process innovation,

roa=return on asset

2. S.E.=standard error, C.R.=critical ratio

3. *t-value* is significant at * *p-value*<0.05, ** *p-value*<0.01, *** *p-value*<0.001

Hypothesized Customer Orientation has an effect on return on asset (H_1)

Table 4.8 shows the structural relationship between customer orientation and return on asset at *p-value* = 0.718 that is more than 0.050. For estimated regression weight, customer orientation relates to return on asset with path standardized coefficient of -0.041. It indicates that customer orientation is not significantly and negatively related to return on asset. Therefore, customer orientation has no an effect on return on asset.

Hypothesized Customer Orientation has an effect on product innovation (H₂)

Table 4.8 indicates the structural relationship between customer orientation and product innovation at $p\text{-value} = 0.079$ that is more than 0.050. For estimated regression weight, customer orientation related to product innovation with path standardized coefficient of -0.197. It shows that customer orientation is not significantly and negatively related to product innovation. Therefore, customer orientation has no an effect on product innovation.

Hypothesized Customer Orientation has an effect on process innovation (H₃)

Table 4.8 indicates the structural relationship between customer orientation and process innovation at $p\text{-value} = 0.078$ that is more than 0.050. For estimated regression weight, customer orientation related to process innovation with path standardized coefficient of -0.177. It shows that customer orientation is not significantly and negatively related to process innovation. Therefore, customer orientation has no an effect on process innovation.

Hypothesized Customer Orientation has an indirect effect on return on asset through product innovation (H₄)

Table 4.8 is the results test of parameter estimation and the significant test of ROA. It shows the structural relationship between customer orientation and product innovation at $p\text{-value} > 0.05$. Customer orientation is not significantly and negatively related to product innovation ($t\text{-value} = -1.759, p\text{-value} = 0.079$). For estimated regression weight, customer orientation relates to product innovation with path standardized coefficient of -0.197. In considering the relationship between product

innovation and return on asset, *p-value* is 0.224. It indicates that product innovation is not significantly and negatively related to return on asset due to *p-value* more than 0.050. For estimated regression weight, product innovation relates to return on asset with path standardized coefficient of -0.114. It shows that customer orientation has no an indirect effect on return on asset through product innovation.

Hypothesized Customer Orientation has an indirect effect on return on asset through process innovation (H₅)

In case of process innovation, table 4.8 shows the structural relationship between customer orientation and process innovation at *p-value* = 0.078. It indicates that customer orientation is not significantly and negatively related to process innovation. For estimated regression weight, customer orientation relates to process innovation with path standardized coefficient of -0.177. In addition, table 4.8 shows the structural relationship between process innovation and return on asset at *p-value* = 0.335 that is more than 0.050. For estimated regression weight, process innovation relates to return on asset with path standardized coefficient of -0.091. It shows that customer orientation has no an indirect effect on return on asset through process innovation.

Hypothesized Competitor orientation has an effect on return on asset (H₆)

Table 4.8 shows the structural relationship between competitor orientation and return on asset at *p-value* = 0.055 that is more than 0.050. For estimated regression weight, competitor orientation relates to return on asset with path standardized coefficient of -0.241. This indicates that competitor orientation has no an effect on return on asset.

Hypothesized Competitor Orientation has an effect on product innovation (H₇)

Table 4.8 shows the structural relationship between competitor orientation and product innovation at $p\text{-value} = 0.002$ that is less than 0.050. For estimated regression weight, competitor orientation relates to product innovation with path standardized coefficient of 0.415. This indicates that competitor orientation has an effect on product innovation.

Hypothesized Competitor Orientation has an effect on process innovation (H₈)

Table 4.8 shows the structural relationship between competitor orientation and process innovation at $p\text{-value} = 0.426$ that is more than 0.050. For estimated regression weight, competitor orientation relates to process innovation with path standardized coefficient of 0.081. This indicates that competitor orientation has no an effect on process innovation.

Hypothesized Competitor Orientation has an indirect effect on return on asset through product innovation (H₉)

Table 4.8 is the results test of parameter estimation and the significant test of ROA. It shows the structural relationship between competitor orientation and product innovation at $p\text{-value} < 0.05$. Competitor orientation is significantly and positively related to product innovation ($t\text{-value} = 3.149$, $p\text{-value} = 0.002$). For estimated regression weight, competitor orientation relates to product innovation with path standardized coefficient of 0.415. In considering the relationship between product innovation and return on asset, $p\text{-value}$ is 0.224. For estimated regression weight,

product innovation relates to return on asset with path standardized coefficient of -0.114. It shows that product innovation is not significantly and negatively related to return on asset. It means that competitor orientation has no an indirect effect on return on asset through product innovation.

Hypothesized Competitor Orientation has an indirect effect on return on asset through process innovation (H_{10})

In case of process innovation, table 4.8 shows the structural relationship between competitor orientation and process innovation at p -value = 0.426. For estimated regression weight, competitor orientation relates to process innovation with path standardized coefficient of 0.081. It indicates that competitor orientation is not significantly but positively related to process innovation. In addition, table 4.8 shows the structural relationship between process innovation and return on asset at p -value = 0.335 that is more than 0.050. For estimated regression weight, process innovation relates to return on asset with path standardized coefficient of -0.091. It shows that process innovation is not significantly and negatively related to return on asset. Summary, the result indicates that competitor orientation has no an indirect effect on return on asset through process innovation.

Hypothesized Interfunctional coordination has an effect on return on asset (H_{11})

Table 4.8 shows the structural relationship between interfunctional coordination and return on asset at p -value = 0.003 that is less than 0.050. For estimated regression weight, interfunctional coordination relates to return on asset with path standardized

coefficient of 0.433. It indicates that interfunctional coordination has an effect on return on asset.

Hypothesized Interfunctional coordination has an effect on product innovation (H₁₂)

Table 4.8 shows the structural relationship between interfunctional coordination and product innovation at *p-value* = 0.019 that is less than 0.050. For estimated regression weight, interfunctional coordination relates to product innovation with path standardized coefficient of 0.306. It indicates that interfunctional coordination has an effect on product innovation.

Hypothesized Interfunctional coordination has an effect on process innovation (H₁₃)

Table 4.8 shows the structural relationship between interfunctional coordination and process innovation at *p-value* < 0.05. For estimated regression weight, interfunctional coordination relates to process innovation with path standardized coefficient of 0.691. It indicates that interfunctional coordination has an effect on process innovation.

Hypothesized Interfunctional coordination has an indirect effect on return on asset through product innovation (H₁₄)

Table 4.8 is the results test of parameter estimation and the significant test of ROA. It shows the structural relationship between interfunctional coordination and product innovation at *p-value* < 0.05. Interfunctional coordination is significantly and

positively related to product innovation ($t\text{-value} = 2.347$, $p\text{-value} = 0.019$). For estimated regression weight, interfunctional coordination relates to product innovation with path standardized coefficient of 0.306. In considering the relationship between product innovation and return on asset, $p\text{-value}$ is 0.224. For estimated regression weight, product innovation relates to return on asset with path standardized coefficient of -0.114. It shows that product innovation is not significantly and negatively related to return on asset. Summary, interfunctional coordination has no an indirect effect on return on asset through product innovation.

Hypothesized Interfunctional coordination has an indirect effect on return on asset through process innovation (H_{15})

In case of process innovation, table 4.8 shows the structural relationship between interfunctional coordination and process innovation at $p\text{-value} < 0.05$. It indicates that interfunctional coordination is significantly and positively related to process innovation. For estimated regression weight, interfunctional coordination relates to process innovation with path standardized coefficient of 0.691. In addition, table 4.8 shows the structural relationship between process innovation and return on asset at $p\text{-value} = 0.335$ that is more than 0.050. For estimated regression weight, process innovation relates to return on asset with path standardized coefficient of -0.091. It shows that process innovation is not significantly and negatively related to return on asset. In summary, the result indicates that interfunctional coordination has no indirect an effect on return on asset through process innovation.

In conclusion, each independent variables (customer orientation, competitor orientation, and interfunctional coordination) is supported differently the dependent and the mediator variables (product and process).

Table 4.9 Standardized direct, indirect, and total effects of market orientation on business performance (ROA)

Construct	Protn			Prosn			ROA		
	DE	IE	TE	DE	IE	TE	DE	IE	TE
Cus/o	-.197	-	-.197	-.177	-	-.177	-.041	.039	-.002
Com/o	.415**	-	.415**	.081	-	.081	-.241	-.055	-.296
Inter/co	.306*	-	.306*	.691***	-	.691***	.433**	-.098	.335
Protn	-	-	-	-	-	-	-.114	-	.017
Prosn	-	-	-	-	-	-	-.091	-	-.141

Note: * p -value<0.05, ** p -value<0.01, *** p -value<0.001

Table 4.9 presents the standardized direct, indirect and total effects of market orientation (customer orientation, competitor orientation and interfunctional coordination) on return on asset (ROA). It indicates that customer orientation has a negative direct effect on product innovation, process innovation, and return on asset. For indirect effect, customer orientation has a positive indirect effect on return on asset. In addition, customer orientation shows a negative total effect on product innovation, process innovation, and return on asset. Competitor orientation has a positive direct effect on product innovation and process innovation but a negative direct effect on return on asset. Moreover, it has a significant effect on product innovation. For indirect effect, competitor orientation has a negative indirect effect on return on asset. In term

of total effect, competitor orientation presents a positively effect on product and process innovation but a negative total effect on return on asset. Interfunctional coordination has a positive direct effect on product innovation, process innovation and return on asset. It also has a significant effect on product innovation, process innovation and return on asset. For indirect effect, interfunctional coordination has a negative indirect effect on return on asset. In terms of total effect, interfunctional coordination has a positive effect on product innovation, process innovation, and return on asset and it has a significant effect on product and process innovation. In addition, product innovation has a negative direct effect on return on asset but a positive total effect on return on asset. For process innovation, it has a negative direct and total effect on return on asset. It concludes that market orientation has a direct effect on business performance more than indirect effect.

In summary, Structural Equation Modeling (SEM) was employed to assess the proposed framework and tested hypotheses. The results of data analysis were presented in this chapter. Chapter 5 will discuss the results and conclude the findings of the study.

CHAPTER 5

CONCLUSIONS AND RECOMMENDATION

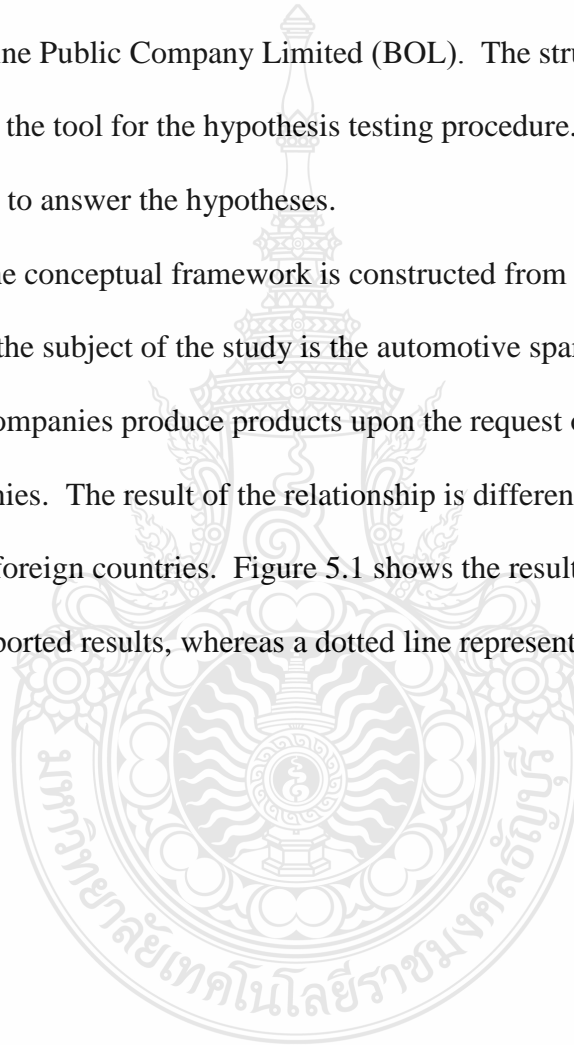
This chapter summarized the problem, the methodology, and the findings of the study. In addition, implication for practice and recommendations were followed at the conclusion of the findings.

Summary of the Finding

The study is to investigate the relationship between market orientation (customer orientation, competitor orientation, and interfunctional coordination) and business performance through innovation that include product and process innovation. The study applies market orientation composed of customer orientation, competitor orientation, and interfunctional coordination as independent variables that may or may not have an impact on dependent variables of a firm's performance. Innovation performs as mediator to the firms' performance that is considered in terms of product and process innovation. According to the firm's performances, the return on investment is applied to measure the selected subjects. Those data are the secondary data collected by Business Online Public Company Limited. Drawing on the conceptual framework, the relationship between market orientation, innovation, and business performance is identified as that developed based upon previous literature.

The Auto Parts and Accessories industry is selected to empirically test the proposed model. The sampling frame is the list of all auto parts and accessories firms in the Thai Auto Parts Manufacturers Association (TAPMA). The study uses survey research with a structured questionnaire as the key instrument in assessing market orientation and innovation. For assessing business performance, the study uses the data from Business Online Public Company Limited (BOL). The structural equation modeling (SEM) is the tool for the hypothesis testing procedure. The findings of the study are discussed to answer the hypotheses.

Although the conceptual framework is constructed from the study of others in various industries, the subject of the study is the automotive spare parts firms in Thailand. Those companies produce products upon the request of all customers who are automobile companies. The result of the relationship is different from those firms of other industries in foreign countries. Figure 5.1 shows the results of the study. A solid line represents supported results, whereas a dotted line represents results that were not supported.



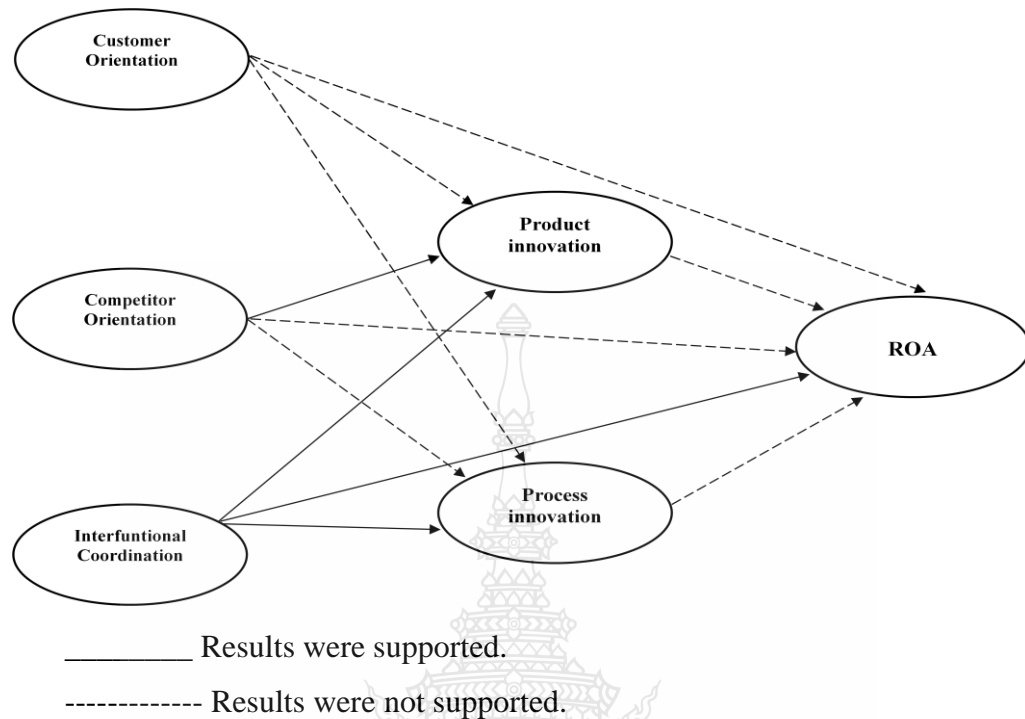


Figure 5.1 Result of the study

Table 5.1 Summary of Hypothesis Testing

Hypothesis	Description	Results
H ₁	Customer orientation has an effect on return on asset.	Not Supported
H ₂	Customer orientation has an effect on product innovation.	Not Supported
H ₃	Customer orientation has an effect on process innovation.	Not Supported
H ₄	Customer orientation has an indirect effect on return on asset through product innovation.	Not Supported
H ₅	Customer orientation has an indirect effect on return on asset through process innovation.	Not Supported
H ₆	Competitor orientation has an effect on return on asset.	Not Supported
H ₇	Competitor orientation has an effect on product innovation.	Supported
H ₈	Competitor orientation has an effect on process innovation.	Not Supported
H ₉	Competitor orientation has an indirect effect on return on asset through product innovation.	Not Supported
H ₁₀	Competitor orientation has an indirect effect on return on asset through process innovation.	Not Supported

Table 5.1 (Continued)

Hypothesis	Description	Results
H ₁₁	Interfunctional coordination has an effect on return on asset.	Supported
H ₁₂	Interfunctional coordination has an effect on product innovation.	Supported
H ₁₃	Interfunctional coordination has an effect on process innovation.	Supported
H ₁₄	Interfunctional coordination has an indirect effect on return on asset through product innovation.	Not Supported
H ₁₅	Interfunctional coordination has an indirect effect on return on asset through process innovation.	Not Supported

Table 5.1 presented the summary of the hypothesis. There are fifteen hypotheses in the study (H₁, H₂, H₃, H₄, H₅, H₆, H₇, H₈, H₉, H₁₀, H₁₁, H₁₂, H₁₃, H₁₄and, H₁₅). It appears that interfunctional coordination have relationship with business performance. Nevertheless in considering indirect effect, there are some effects between independent variables and the mediator. The detail in hypotheses testing is discussed below.

The first hypothesis indicated that customer orientation has an effect on return on asset. However, the result shows that customer orientation has no direct effect on return on asset. It differs from Nwokah (2009) investigating the relationship between customer-focus, competitor-focus and marketing performance in food and beverages organizations in Nigeria that collected the data from key informants using a research instrument. Returned instruments were analyzed using regression analysis. The results found that customer orientation has a positive relationship with marketing performance. It is evidently shown that the automobile parts industry differed from other industries. Customer orientation does not have any impact on business performance. It is observed that the effect does not show within a short-term period as each order placement and confirmation in terms of volume and specification was fixed with less variation

according to the less fluctuated automobile production capacity. Despite the incremental customer demand, the production capacity could not be expanded as much.

The second hypothesis indicates that customer orientation has an effect on product innovation. However, the results find that customer orientation has no effect on product innovation. Since customers who are the automotive industry designed and identified by specification their products. Therefore, the automotive parts firms have to produce their products based upon customers who require less innovation from the automotive parts firms.

The third hypothesis indicated that customer orientation has an effect on process innovation. However, the result finds that customer orientation has no effect on process innovation. Since the product is identified specification from the customer. The process in the production has to follow the customer. Therefore, the process innovation in the automotive parts firms is not necessary for automotive industries.

The fourth hypothesis indicates that customer orientation has an indirect effect on return on asset through product innovation. However, the results find that customer orientation has no indirect effect on return on asset through product innovation, since the automotive parts firms in Thailand have operated base upon original equipment manufacturing. They have to produce their product by orders from their customers. Those products are designed and identified by specification from their customers who are automotive assembly firms. In many circumstances, those products may be designed at their headquarters' abroad. Therefore, the automotive parts firms have to produce their products based upon order and require less innovation. However, it is believed that the continued mutual business relationship partnership between automotive parts companies

and their customers is likely to enhance enriching business performance of the firm in the long run.

The fifth hypothesis indicates that customer orientation has an indirect effect on return on asset through process innovation. However, the result finds that customer orientation has no indirect effect on return on asset through process innovation, since automotive parts firms have to produce their products based upon orders. Therefore, the process in production has to follow their customer or the automotive parts firms may have to adjust the process to fit the order. It means that the process innovation does not occur in the automotive parts firms. For business performance, it may need some period of time that depends on the relationship between automotive parts firms and their customer.

The sixth hypothesis indicates that competitor orientation has direct effect on return on asset. However, the result finds that competitor orientation has no direct effect on return on asset. It is different from the Bhuian, Menguc, and Bell (2003) research that studied the effects of entrepreneurship on the relationship between market orientation and performance by using population from a hospital. The results pointed out that competitor orientation has an impact on performance. It is evidently found that the automobile part industry differed from other industries. Competitor orientation does not have any impact on business performance, the same as customer orientation. That is, the effect does not show within a short-term period, since the automobile parts industries in Thailand have to produce spare parts by order. This means that automobile parts industries have fixed the technology. However, the automotive spare parts industries have to develop technology to serve the automobile companies in order to

have a competitive advantage. The development of technology in the automotive parts industries creates high cost and requires some period of time for return on asset.

Laosirihogthong, Paul, and Speece (2003) studied technology usage and organizational characteristics in the Thai automotive industry. The results indicate that technology was expensive for new manufacturing and it was important for management to understand the benefit of bringing new technology to the company's manufacturing process.

The seventh hypothesis indicates that competitor orientation has an effect on product innovation. The result finds that competitor orientation has an effect on product innovation. Since product innovation causes a firm's competitive advantage and creates market leadership. This result is supported by Neely and Hii (1998) indicated that innovation has a direct impact on competitiveness.

The eighth hypothesis indicates that competitor orientation has an effect on process innovation. However, the result shows that competitor orientation has no effect on process innovation. Since the process in the production is important for the company and it is the confidential to the company. The automotive part industries can monitor the competitor in terms of product innovation but not process innovation.

The ninth hypothesis indicates that competitor orientation has an indirect effect on return on asset through product innovation. However, the results indicate that competitor orientation has no indirect effect on return on asset by product innovation as a mediator. When examining competitor orientation and product innovation, the result indicates a positive affect structural model of return on asset. It is observed that the automotive spare parts firms have to have a competitive advantage, though they produce the product by order for the automobile industry. These results are supported by many

researchers such as Simpon, Siguaw, and Enz (2006). The researchers suggested that innovation causes a firm's competitive advantage and creates market leadership. Moreover, Neely and Hii (1998) indicated that innovation has a direct impact on competitiveness. Thus, the automotive parts industries in Thailand have to develop products to compete with their competitors concerning market share and market leadership. In addition, the automotive parts industry has to monitor competitors in order to produce new products that meet the needs of the customer. However, those new products can not yield a better return on asset in the short term. Thus, competitor orientation has a direct effect on product innovation but no indirect effect on business performance in the short term. This is supported by Geroski and Machin (1992) who studied the close relationship between innovation and business performance. The results concluded that innovation plays a crucial role in long term profitability and growth in companies.

The tenth hypothesis indicates that competitor orientation has an indirect effect on return on asset through process innovation. However, the result indicates that competitor orientation has no indirect effect on return on asset by process innovation as a mediator. Since, process innovation is confidential to the company and the heart of the production process. Thus, the competitor can monitor in terms of product innovation but not process innovation. In addition, it may need some period of time to effect on business performance.

The eleventh hypothesis indicated that interfunctional coordination has an effect on return on asset. The result indicates that interfunctional coordination has a direct effect on return on asset. It is supported by Johnson, Dibrell and Hansen (2009) who

studied market orientation, innovativeness, and performance of food companies. The results indicated that interfunctional coordination in the firms has an impact on business performance. It is evidently shown that the automobile parts industry in Thailand is like other industries in other countries. Interfunctional coordination has an impact on business performance.

The twelfth hypothesis indicated that interfunctional coordination has an effect on product innovation. The result indicates that interfunctional coordination has an effect on product innovation. It is supported by Moenaert et al. (1995) that success rates in new product development comes from the relationship among the interfunctional coordination.

The thirteenth hypothesis indicated that interfunctional coordination has an effect on process innovation. The result indicates that interfunctional coordination has an effect on process innovation. It is supported by Brown and Eisenhardt (1995) who studied that crossfunctional participation and communication in organization are important for a successful outcome of the new product development process, particularly R&D, marketing, and manufacturing.

The fourteenth hypothesis indicates that interfunctional coordination has an indirect effect on return on asset through product innovation. However, the results indicate that interfunctional coordination has no indirect effect on return on asset by product innovation as a mediator. When examining interfunctional coordination and product innovation, the results indicate a positive affect structural model of return on asset. It is evidently shown that interfunctional coordination is a crucial factor that impacts innovation. Moenaert et al. (1995) studied the interfunctional coordination and

pointed out that success rates in new product development comes from the relationship among the interfunctional transfer of information, R&D, and marketing. Moreover, Im and Workman (2004) indicated that interfunctional coordination illustrated the level of interaction and communication in the firm which is crucial for new product development. It is believed that interdepartmental cooperation in the organization is significant and offers a direct affect to innovation. However, there are the summaries of many studies indicating it found that innovation is an important role for long term profitability, and growth of any firms (Geroski et al. 1992; Cosh and Hughes, 1996; Deshpande et al., 1993; Han et al., 1998; Nobel et al., 2002). Therefore, interfunctional coordination has a direct effect on product innovation but no indirect effect on business performance.

The fifteenth hypothesis indicates that interfunctional coordination has an indirect effect on return on asset through process innovation. However, the results indicate that interfunctional coordination has no indirect effect on return on asset by process innovation as the mediator. When examining interfunctional coordination and process innovation, the results indicate a positive affect structural model of return on asset. It is supported by Brown and Eisenhardt (1995) who studied interfunctional coordination and concluded that crossfunctional participation and communication in organization are important for a successful outcome of the new product development process, particularly R&D, marketing, and manufacturing. Narver and Slater (1990) indicated that interfunctional coordination means coordination within firms, which allocate a firm's resources to contribute superior value to its customers. Therefore, interfunctional coordination comes from coordination between different functions in the

firm that could not occur in the short term. It has to accumulate for a long period of time until it becomes the culture and creates value in order to have a competitive advantage. Moreover, Tornatzky et al. (1983) suggested that innovation may be valuable for an organization; however, it is not innovation alone that supports a firm's growth. Thus, interfunctional coordination has a direct effect on innovation but no indirect effect on business performance.

Limitation of the Study

The current study employed a data gathering by a survey administered via questionnaires that were distributed to subjects. Two important keys should be recognized for other researchers who are interested in conducting similar studies in this topic and using a similar group of subjects. The first concern is the limitation of the returned questionnaires from the subjects who have worked for those target firms. This study conducted three stages in order to derive answered questionnaires. From the first distribution of questionnaires, follow up letters and telephone calls had been managed until receiving the appropriate number of questionnaires. Second, measuring performance of specific industry in a particular country is complicated and may yield various results. Moreover, the data by automotive spare parts firms, even though they are the members of the association, is not completed enough when considering the longitudinal period. Other researches should consider the subjects in the group that have to present completed financial data such as firms from Thai listed companies.

Additionally, the result in this study comes from an internal environment. Other researchers should consider external environments in their studies.

Implication for Practice and Future Research

For the implication for practice at the national level, the government or the industrial sector should determine how to rise up innovation in order to increase income or decrease their cost of production. The result of this research indicates the crucial point of the interfunctional coordination to support the firms' innovation. Managerial systems of those firms should be instructed. Therefore, the government should support various firms who are small and medium size that do not have a complete system to encourage coordination between functions within a firm. If those firms have a complete managerial system that can support innovation, then in long term, they may have better profitability or can compete effectively within the competitive environment.

In considering the auto parts and accessories industry, the study provides two implications as short term and long term effects. In the short term, market orientation (customer orientation, competitor orientation, and interfunctional coordination) has a direct effect on different innovations (product and process innovation). Customer orientation has no direct effect on innovation for both product innovation and process innovation. Competitor orientation has a direct effect on product innovation but no direct effect on process innovation. Interfunctional coordination has a direct effect on business performance, product innovation, and process innovation in the short term. It is obvious that interfunctional coordination is important to business performance and

innovation in the auto parts and accessories industry for the short term. For the long term, market orientation could have an effect on business performance through innovation in auto parts and accessories industry, since the summarization of many studies indicates that innovation has an important role for long term profitability and growth of any firms (Geroski et al. 1992; Cosh and Hughes, 1996; Deshpande et al., 1993; Han et al., 1998; Nobel et al., 2002). Moreover, CBI/NatWest (1997) indicates that around 80% of the firms who concentrate on innovation may affect profit in a long term of operation.

In terms of future research, this study found various experiences that may benefit other researchers in conducting their research concerning market orientation, innovation, and a firm's performance. First, innovation should be considered as a mediator in the long term. According to the study conducted by Gao, Zhou, and Yim (2007), the contingent value of strategic orientations in China by applying market orientation affects business performance in China. They found different levels of factors may yield varied results. Therefore, some scholars who are interested in this industry in the short term should consider the relationship between market orientation and business performance in other mediators such as the production capacity of the firm.

Second, the crucial contribution in the academic area of this study is that the results present some relationships between interfunctional coordination with innovations. Other researchers may consider investigating in depth any particular industry concerning their culture which may have an impact on the success of innovation.

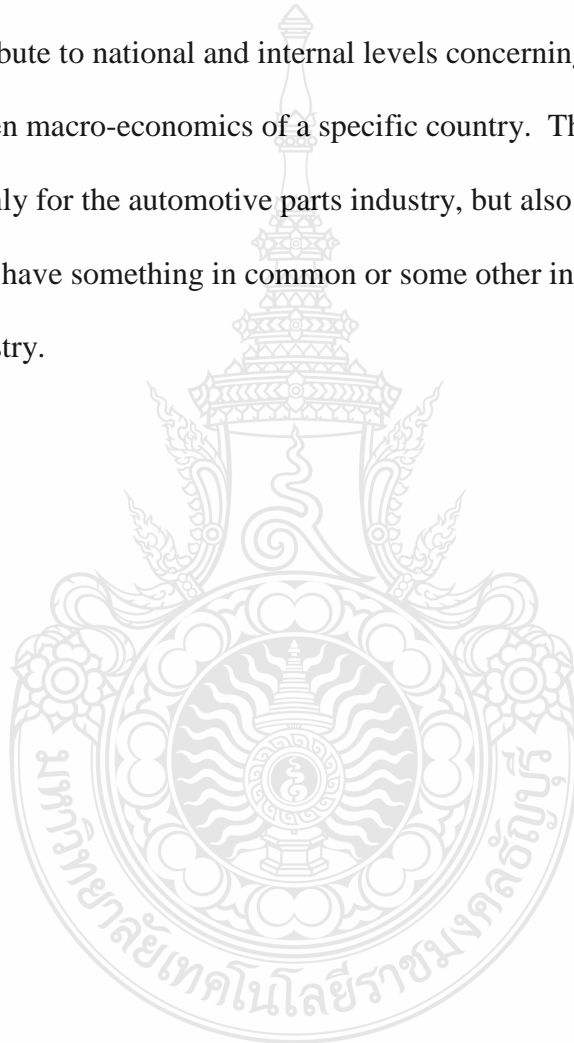
Third, future research might consider longitudinal studies to investigate the relationship of any factors being applied by this study, since some researchers indicate the period of time that may affect a firm's performance. Both market orientations and innovation may differ in a period of time to yield a firm's performance. In addition, the difference in a period of time for the success in performance may vary based upon particular industries and countries. Long term data may present different results. However, long term data may be difficult to collect, since many firms in Thailand do not keep good records, and data systems. Thai listed companies will have more complete data than those firms outside the stock exchange of Thailand; therefore, subjects from Thai listed company are easy to access.

Fourth, many studies indicate that although the market is one of the factors that support innovation, to concentrate on a market driven approach alone is not appropriate for explaining product innovation (Dosi, 1982; Johne and Snelson, 1988). Technology is also important for product innovation. This means other researchers should conduct their studies based upon more factors such as technology based rather than market orientation alone.

Fifth, researchers who will conduct the topic similar to this study have to collect data from different sources: both primary and secondary data. The stage of follow up for the subjects has to be prepared to get the complete matching data. In this case, some factors are market orientation and innovation in relationship to financial data. The data concerning market orientation and innovation comes from questionnaires. The data concerning financial reports comes from secondary sources. Other researchers who are

interested in this area may use a multi-method of gathering data to fit the various firms in this industry.

Finally, although this study is concentrated on investigating the automotive spare parts industry in Thailand, other researchers might apply the methodology and experience found in this study to investigate other industries, since the results from any industry will contribute to national and internal levels concerning marketing, innovation, and even macro-economics of a specific country. Therefore, there is a need, in particular, not only for the automotive parts industry, but also understanding of other industries that may have something in common or some other industry that is or is not related to this industry.



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