

STRATEGIC INNOVATION CAPABILITY AND FIRM SUSTAINABILITY: EVIDENCE FROM AUTO PARTS BUSINESSES IN THAILAND

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Abstract: Innovation capability has been recognized as one of the key capabilities which influence organizational success and survival. However, the comprehensive reviews and explanations of strategic innovation capability are still limited. The aim of this study is to investigate the relationship among strategic innovation capability's dimension and its consequences. The results were derived from a survey of 126 auto parts businesses in Thailand. The regression analyses suggested that strategic innovation capability dimensions consist of new idea enhancement, proactive activity support, market-driving encouragement, risk-taking circumstance acceptance, and dynamic adaptation commitment which have an important positive effect on firm sustainability. Likewise, the finding has shed light on the mediating role of stakeholder involvement exaltation. Moreover, theoretical and managerial contributions, conclusion, and suggestions for future research are interesting to be discussed.

Keywords: Strategic Innovation Capability, New Idea Enhancement, Proactive Activity Support, Market-Driving Encouragement, Risk-Taking Circumstance Acceptance, Dynamic Adaptation Commitment, New Product Establishment, Business Operational Excellence, Stakeholder Involvement Exaltation, Firm Sustainability.

10. Introduction

In an era of radical change, firms face strong pressures to renew and update their business strategies and core competencies. The source of these pressures has been the arrival of new competitors, the emerging of new technology and the variety in customer preferences and demands (Schmitt and Klarner, 2015). In trying to respond, firms need to develop and improve their innovative capability.

The dynamic capability theory explains the firm's abilities to create, reconfigure, and integrate firm resources and capability in order to generate new value for the firm (Teece, 2007). Managing these capabilities (especially strategic innovation capability) efficiently, one can effectively provide firms with a source of sustainable competitive advantage and firm sustainability. Hence, the key research question in this study is, "How does strategic innovation capability influence firm sustainability?" with the key objective to explore and highlight the relationships between strategic innovation capability and firm sustainability. Since the concept of innovation capability has moved from a traditional role to strategic role, the term "Strategic Innovation Capability" is the perfect combination of innovation capability and strategy. It refers to the fundamental re-conceptualization of the business model and the reshaping of existing markets by breaking the old rules and changing the nature of existing competition, to achieve

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dramatic value improvements for customers and high growth for companies (Schlegelmilch, Diamantopoulos and Kreuz, 2003). Its primary concern is not only a limit to innovative creations, but also extends to the increase in revenues, productivity, customer satisfaction, and better strategic position.

This study is outlined as follows. The first part reviews the relevant literature in the area and streams of the five dimensions of strategic innovation capability, its consequence and antecedents, links between the concepts of the aforementioned variables, and develops the key research hypotheses of those relationships. The second section explicitly details research methods, including data collection, measurements, and statistics. The results of the study derived from 126 auto parts businesses in Thailand are indicated, and their reasonable discussions with existing literature support are shown. The third section gives the results of the analysis and the corresponding discussion. The final section summarizes the findings of the study, points out both theoretical and managerial contributions, and presents

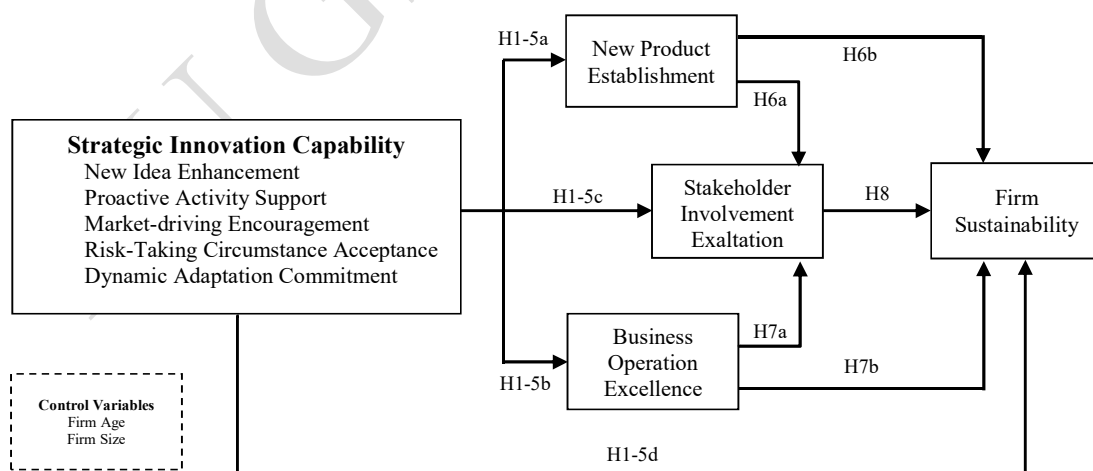
suggestions for further research and the limitations of the study

11. Literature Review

Based on the extensive literature reviewed, there is little empirical research on strategic innovation capability integrating theory to describe the complete phenomena. To clearly understand the relationships among strategic innovation capability, its antecedents and consequences; the dynamic capability and contingency theory elaborated to explain the aforementioned relationships.

In this study, strategic innovation capability is the main variable and the center of this study. As described earlier, this study proposes that strategic innovation capability is positively and directly associated with firm sustainability. Moreover, the mediating effects of new product establishment, stakeholder involvement exaltation, and business operation excellence are investigated, and expected to yield positive relationships. Figure 1 illustrates the relationships among strategic innovation capability and its consequences.

Figure 1: A Research Model of Strategic Innovation Capability



a. Strategic Innovation Capability

The field of innovation is very broad, and it has been defined in several ways (Chen, 2011). In the Schumpeterian tradition, innovation can be defined as something new (Schumpeter, 1934). It also refers to an adoption of an internally-generated or purchased device, system, policy, program, process, product, or service that is new to the adopting organization (Damanpour and Evan, 1984; Damanpour, 1991). In addition, there has been much research and literature that illustrates the positive consequences of innovation. For instance, some syntheses of previous studies have noted that firm innovations are positively linked to market orientation, organizational learning, and performance (Calantone, Cavusgil and Zhao, 2002).

Strategic innovation capability is defined as the combination of innovation capability and strategy. Strategy is the creation of a unique and valuable position, involving a different set of activities (Porter, 1980). It is viewed as a firm's conscious move to leverage its idiosyncratic endowment of firm-specific resources, and can bring a firm superior performance (Hamel and Prahalad, 1994; Lado et al., 2006). Strategic innovation capability is a philosophy of continuous improvement. It is the dynamic creation of creative strategic positioning from new products, services, and business models; and emphasizes that this framework was a dynamic view of strategy by which a company establishes sustained competitive excellence (Kodama and Shibata, 2014). In addition, strategic innovation capability is the degree to which the firm has the capability to redefine its business, to identify the implications of a business redefinition, to identify new business strategies, to identify core competencies, to enable the implementation of new strategies, to create new market segments, and to identify and use basic skills necessary to create a new business model

(Preda, 2012; 2013). It involves achieving strategy transformation to establish competitive superiority over competitors (Kodama and Shibata, 2014).

According to the discussion above and the fundamentals of the dynamic capability theory, this study classifies strategic innovation capability into five distinctive dimensions comprised of new idea enhancement, proactive activity support, market-driving encouragement, risk-taking circumstance acceptance, and dynamic adaptation commitment.

- New idea enhancement

Many researchers have mentioned that new idea establishment is the important source for innovation creation (Wu, Lin and Hsu, 2007), companies' revenue growth (McAdam and McClelland, 2002) and business effectiveness (Foo, Wong and Ong, 2005). According to Teece (2009), new idea generation is the ideation dimension of strategic innovation capability. It is the capacity to sense and shape opportunities and threats. A new idea can emerge in different ways and many are created by employees within existing firms (Nikolowa, 2014). However, in this study, the concept of new idea enhancement is not only limited to the generation of the new idea. It is defined as the firm's openness to the generation, creation, selection, implementation, and support of novel business initiatives, views, concepts and creations (Grimaldi and Grandi, 2005). Thus, the hypothesis is offered as follows:

H1: New idea enhancement is positively related to, a) new product establishment, b) business operation excellence, c) stakeholder involvement exaltation, and d) firm sustainability.

- Proactive activity support

Responsiveness refers to the discovering, understanding and satisfying of expressed customer needs; whereas proactiveness is discovering, understanding and satisfying latent

customer needs. Being proactive is not only reacting to change when it happens, but in taking action by causing change toward a state (Dencker et al., 2009). Thus, proactive activity support refers to the firm's commitment in promoting corporate mindsets that emphasize opportunity-seeking, has perspective foresight, and first-moving initiative to aggressively enhance competitive positioning, and the capability of the firm (Bhatnagar and Viswanathan, 2000; Dencker et al., 2009). As, previous literature has shown that proactive activity increases customer loyalty, market share (Deepen et al., 2008), stakeholder relationships (Li and Barnes, 2008), competitive positioning (Bhatnagar and Viswanathan, 2000), and business performance (Bodlaj, 2010), therefore the hypothesis is assigned as follows:

H2: Proactive activity support is positively related to, a) new product establishment, b) business operation excellence, c) stakeholder involvement exaltation, and d) firm sustainability.

- Market-driving encouragement

Prior literature illustrated that market-driving has been proposed as a key to firm success in creating new market opportunities (Hills and Sarin 2003). The core concept of market-driving is rooted in market orientation literature consisting of a market-driven perspective and a market-driving perspective (Jaworski, Kohli, and Sahay, 2000). While a market-driven perspective refers to the firm that responds and acts toward the existing market structure and characteristics, market-driving perspective, on the other hand, seeks to shape market preferences and structures to their advantage (Sebastiao, 2007).

Market-driving organizations aim to achieve greater performance, reshaping the structure of the market and exploiting the competitors' weaknesses in order to become the market leader. By the assumption that customers do not know their own preferences, marketers can act to

develop and form them (Gebhardt, Carpenter and Sherry, 2006). Market-driving encouragement is a market leader's perspective in supporting business activities that can create, shape, and accelerates potential markets to exploit opportunities which competitors cannot (Kumar, Scheer and Kotler, 2000). Therefore, the hypothesis is given as follows:

H3: Market-driving encouragement is positively related to, a) new product establishment, b) business operation excellence, c) stakeholder involvement exaltation, and d) firm sustainability.

- Risk-taking circumstance acceptance

The relationship between risk-taking and innovation performance is particularly fruitful. Taking risks in organizations is important in explaining innovation performance (Garcia-Granero et al., 2014). Several streams of research propose that risk-taking propensity can make a difference in defining the ability of firms to innovate. Therefore, firms with more propensities and capability to take more tolerance and acceptance toward risks are more likely to perform better.

Risk-taking circumstance acceptance in this study is defined as the firm's capability and attitude toward engaging in uncertain situations, and admitting to the results and consequences without regret (Gibb, 2010). It is involved in opportunity-seeking, decision-making (Broll, Guo, Welzel and Wong, 2015), and the overall propensity to continually enter into risk-taking situations (Gibb, 2010). Thus, the hypothesis is elaborated as follows:

H4: Risk-taking circumstance acceptance is positively related to, a) new product establishment, b) business operation excellence, c) stakeholder involvement exaltation, and d) firm sustainability.

- Dynamic adaptation commitment

The concept of dynamic adaptation encompasses the routines of resource exploitation and deployment, which are supported by acquisition, internalization and dissemination of extant knowledge; as

well as resource reconfiguration, divestment and integration (Dixon, Meyer, and Day, 2014). This specific capability enables firms to adjust and respond successfully to environmental change (Lee, 2001). Therefore, dynamic adaptation commitment refers to organizational orientation in the continuous process of adjustment to environmental change and uncertainty, and of maintaining an effective alignment with the environment (Firth, 2010).

Previous literature shows that there is a theoretical link among dynamic adaptation, innovation, business competitiveness (Tuominen, Rajala and Moller, 2004), and firm performance (Jundt, 2008).

H5: Dynamic adaptation commitment is positively related to a) new product establishment, b) business operation excellence, c) stakeholder involvement exaltation, and d) firm sustainability.

b. The Consequences of Strategic Innovation Capability

This section examines the relationships among the consequences of strategic innovation capability consisting of new product establishment, business operational excellence, stakeholder involvement exaltation and firm sustainability. The critical literature review on the definition of each construct and purposed hypothesis are discussed below.

- New product establishment

New product development (NPD) refers to the process of thinking of, and creating a new product/service and outcomes for achieving a corporate goal (Nakata and Sivakumar, 1996). Continuously, introducing new products into the market has become a key factor for a company to succeed in the market (Tsai and Chuang, 2006). However, many new products failed, and instead, generated significant financial and strategic losses to the firms. Therefore, the concept of new product establishment in this study refers

to the firm's ability to successfully develop and launch its new product/service to the market with significant financial outcomes and strategic advantage for those firms (Nakata and Sivakumar, 1996; Ledwith and O'Dwyer, 2009). As a consequence, the hypothesis is set out as follows:

H6: New product establishment is positively related to, a) stakeholder involvement exaltation and b) firm sustainability.

- Business operation excellence

The term "operational excellence" is referred to the ability of an organization to attain its absolute level of operational goals and objectives of activities (Kumar and Gulati, 2010). Excellence in organizational operations has resulted in cost reduction (Rabinovich, Dresner and Evers, 2003), organizational objectives, goal achievement (Gordon, Loeb and Tseng, 2009), and business survival (Kumar and Gulati, 2010). Moreover, business operational excellence, in this study, is defined as the supreme ability of the firm in operating its production process to achieve its operational goals and competitive advantage (Kumar and Gulati, 2010). Therefore, the hypothesis is given as below:

H7: Business operation excellence is positively related to, a) stakeholder involvement exaltation and b) firm sustainability.

- Stakeholder involvement exaltation

The stakeholder is any group or individual that can affect or be affected by the activity of an organization engaging in accomplishing its mission and goals (Freeman, 1984). The prior literature suggested that stakeholder positively influences the firm image and reputation, business decision quality, efficiency (Clercq, Dimov and Thongpanl, 2010), organizational success (Todt, 2011), and corporate sustainability (Jonge, 2006). While stakeholder involvement refers to business vision that emphasizes and focuses on the enhancement of its

stakeholder participation, collaboration and relationship (Prunell, 2012), therefore stakeholder involvement exaltation is defined as the escalation in corporate collaborations, participation and relationships with any group or individual that can affect or be affected by the activity for which an organization is engaging to accomplish its missions and goals (Freeman, 1984; Myllykangas, Kujala and Lehtimäki, 2010). Hence, the hypothesis is assigned as below:

H8: Stakeholder involvement exaltation is positively related to firm sustainability.

- Firm sustainability

Firm sustainability refers to the firm's ability to meet and satisfy the direct and indirect stakeholder demands, without compromising its ability to meet the need of future stakeholders (Dyllick and Hockerts, 2002). It involves sustaining and expanding economic growth, shareholder value, prestige, reputation, customer relationships, and the quality of products and services (Szekely and Knirsch, 2005). Therefore, with respect to the literature reviews, this study defines firm sustainability as the continuous increase and maintainability of business income, profitability, product and service quality, market share, business growth, and reputation over competitors (Dyllick and Hockerts, 2002; Szekely and Knirsch, 2005).

12. Research Methodology

- Sample selection and data collection procedure

Thai auto parts industry is selected as the population of this study. In order to illustrate the research phenomenon, a list of 582 Thai auto parts firms in Thailand were provided by the Thai Auto Parts Manufacturers Association (2015). This chosen industry represents a highly competitive and innovative business environment. Especially, the Thai auto parts businesses have played a significant role in helping to increase and expand Thai economy in terms of economic

growth and stability (Sriboonlue and Ussahawanitchakit, 2014). The supports from government in the first-car policy raise both customer demand and competitive intensity in the auto parts industry. Meanwhile, in the Thai coup d'état of 2014, the Thai auto parts industry faced an economic downturn which directly affected the market and customer demand. Moreover, with regard to globalization, the auto parts businesses in Thailand will inevitably be affected by the challenge of competition among numerous competitors, particularly competition from China and India (Wangvanichakorn, 2015).

A mail survey procedure via the constructive questionnaire was employed for data collection. The self-administered questionnaire comprised five sections.

In the first section, respondents are requested to provide their personal information such as gender, age, education level, work experience, and current position. The second section questions the organizational characteristics; for example, business type, number of employees, and annual revenues. The third and fourth sections collect the key concepts of strategic innovation capability dimensions and the consequences of strategic innovation capability. In these sections, the respondents were asked selecting their score of agreement in the interval of strongly disagree and strongly agree. Finally, the fifth section provides an open-ended question to gather key respondent suggestions and opinions.

The participants in this study were managing directors and managing partners. With regard to the questionnaire mailing, only 18 surveys were undeliverable because some were no longer in business or had moved to an unknown location. Deducting the undeliverable from the original 582 mailed, the valid mailing was 564 surveys. The follow-up electronic mails of non-responses were conducted after three weeks. Finally, 159 responses were collected. However, only 126

complete questionnaires were usable. The effective response rate was approximately 22.34%. Moreover, the comparison between early and late respondents implied that a non-response bias was not a problem in this study.

- *Reliability and validity*

To assess the measurement reliability and validity, factor analysis was firstly utilized during the pre-test. The confirmatory factor analyses were conducted separately on each set of the items representing a particular scale due to limited observations. All factor loadings are greater than the 0.40 cut-off (Nunnally and Bernstein, 1994) and are statistically significant. In the scale reliability, Cronbach's alpha coefficients are greater than 0.70 (Nunnally and Bernstein, 1994). Thus, the scales of all measures appear to produce internally consistent results. The results for both factor loadings and Cronbach's alpha for multiple-item scales used in this study are presented in Appendix 1.

- *Statistical Techniques*

Hierarchical regression analysis is used to test and examine the relationships among the dimensions of strategic innovation capability, its antecedents and

consequences. With the need to understand the relationships in this study, six statistical equations of the aforementioned relationships are depicted as shown below.

$$Eq1: NPE = \alpha_{01} + \beta_{01}NIE + \beta_{02}PAS + \beta_{03}MDE + \beta_{04}RCA + \beta_{05}DAC + \beta_{06}FA + \beta_{07}FS + \varepsilon_{01}$$

$$Eq2: BOE = \alpha_{02} + \beta_{08}NIE + \beta_{09}PAS + \beta_{10}MDE + \beta_{11}RCA + \beta_{12}DAC + \beta_{13}FA + \beta_{14}FS + \varepsilon_{02}$$

$$Eq3: SIE = \alpha_{03} + \beta_{15}NIE + \beta_{16}PAS + \beta_{17}MDE + \beta_{18}RCA + \beta_{19}DAC + \beta_{20}FA + \beta_{21}FS + \varepsilon_{03}$$

$$Eq4: FSU = \alpha_{04} + \beta_{22}NIE + \beta_{23}PAS + \beta_{24}MDE + \beta_{25}RCA + \beta_{26}DAC + \beta_{27}FA + \beta_{28}FS + \varepsilon_{04}$$

$$Eq5: SIE = \alpha_{05} + \beta_{29}NPE + \beta_{30}BOE + \beta_{31}FA + \beta_{32}FS + \varepsilon_{05}$$

$$Eq6: FSU = \alpha_{06} + \beta_{33}NPE + \beta_{34}BOE + \beta_{35}SIE + \beta_{36}FA + \beta_{37}FS + \varepsilon_{06}$$

Table 1: Descriptive Statistics and Correlation Matrix

	NIE	PAS	MDE	RCA	DAC	NPE	BOE	SIE	FSU
Mean	4.132	3.988	4.081	3.873	4.161	4.119	3.974	4.116	4.128
S.D.	.534	.527	.528	.701	.574	.591	.679	.522	.583
PAS	.592***								
MDE	.413**	.778***							
RCA	.408***	.684***	.587***						
DAC	.559***	.421***	.392***	.378***					
NPE	.525***	.469***	.592***	.422***	.337***				
BOE	.378***	.408***	.279***	.335***	.496***	.414***			
SIE	.472***	.391***	.579***	.621***	.583***	.552***	.520***		
FSU	.643***	.541***	.543***	.429***	.611***	.576***	.201**	.635***	
FA	-.079	.091	.118	.087	.075	.503	.124	.128	.085
FS	-.045	.067	.121	.093	.034	.108	.102	.185**	.094

***p<0.01, **p<0.05

13. Results and Discussion

- Descriptive Statistics and Correlation Matrix

Table 1 represents the descriptive statistics and correlation matrix of all variables. With respect to the potential problem relating to multicollinearity, none of the correlation coefficients exceed 0.80. Moreover, the variance inflation factors (VIF) in equation 1-11 (table 3 and table 4) ranged from 1.271 to 2.012, which were below the cut-off value of 10 (Hair, et al., 2006). Hence, it can be concluded that multicollinearity is not a serious problem in this study.

- Inferential Analysis

Table 2 represents the results of hierarchical regression analysis of the relationships among strategic innovation

capability dimensions and its consequences. Models 1 to 6 illustrate that strategic innovation capability dimensions, namely, new idea enhancement, has significant positive effects on new product establishment ($\beta_{01}=0.239$, $p<0.05$), business operation excellence ($\beta_{08}=0.297$, $p<0.01$), stakeholder involvement exaltation ($\beta_{15}=0.237$ $p<0.01$), and firm sustainability ($\beta_{22}=0.368$, $p<0.01$). The finding is consistent with the idea that new idea enhancement is an important source for innovation creation (Wu, et al., 1998). Generating new ideas is a significant factor for increasing companies' revenue growth (McAdam and McClelland, 2002) business effectiveness and organizational sustainment (Foo, et al., 2005). Therefore, hypothesis 1 is fully supported.

Table 2: Result of Regression Analysis of Strategic Innovation Capability and Its Consequences

Independent Variables	Dependent Variables					
	NPE	BOE	SIE	FS	SIE	FS
	H1-5a	H1-5b	H1-5c	H1-5d	H6-7a	H6-7b, 8
	Equation 1	Equation 2	Equation 3	Equation 4	Equation 5	Equation 6
New Idea Enhancement (NIE)	.239** (.085)	.297*** (.094)	.237*** (.076)	.368*** (.095)		
Proactive Activity Support (PAS)	.198** (.076)	.228** (.082)	.246*** (.082)	.288*** (.088)		
Market-Driving Encouragement (MDE)	.306*** (.079)	.109 (.097)	.275*** (.078)	.393*** (.098)		
Risk-Taking Circumstance Acceptance (RCA)	.100 (.082)	.107 (.086)	.081 (.069)	.192** (.071)		
Dynamic Adaptation Commitment (DAC)	.233** (.080)	.314*** (.080)	.224** (.077)	.266*** (.082)		
New Product Establishment (NPE)					.375*** (.091)	.311*** (.086)
Business Operation Excellence (BOE)					.360*** (.093)	.107 (.095)
Stakeholder Involvement Exaltation (SIE)						.425*** (.094)
Firm age (FA)	.112 (.127)	.131 (.148)	.109 (.121)	.066 (.137)	.124 (.109)	.118 (.125)
Firm size (FS)	.097 (.102)	.076 (.128)	.094 (.104)	.098 (.118)	.126 (.099)	.090 (.095)
Adjusted R ²	.489	.491	.512	.412	.351	.427
Maximum VIF	1.954	1.954	1.954	1.954	1.271	1.390

Beta coefficients with standard errors in parenthesis, *** $p < 0.01$, ** $p < 0.05$, * $p < 0.10$

In hypothesis 2a-e, the analysis revealed that business proactive activity support has significant positive relationships with new product establishment ($\beta_{02}=0.198$, $p<0.05$), business operation excellence ($\beta_{09}=0.228$, $p<0.05$), stakeholder involvement exaltation ($\beta_{16}=0.246$, $p<0.01$), and firm sustainability ($\beta_{23}=0.288$, $p<0.01$). Proactive business activities could increase customer loyalty, market share (Deepen et al., 2008), stakeholder relationships (Li and Barnes, 2008), innovation capability, and business performance (Bodlaj, 2010). Hence, hypothesis 2 is fully supported.

In line with hypotheses 3, the results show that a firm's market-driving encouragement has significant positive effects with new product establishment ($\beta_{03}=0.306$, $p<0.01$) stakeholder involvement exaltation ($\beta_{17}=0.275$, $p<0.01$), and firm sustainability ($\beta_{24}=0.393$, $p<0.01$); hypotheses 3a, 3c and 3d. These favors the market-driving literature related to a wide variety of innovative possibilities (Sebastiao, 2007). Thus, hypothesis 3 is partially supported.

Next, the finding exhibited that business risk-taking circumstance acceptance has a significant positive relationships with firm sustainability ($\beta_{24}=0.192$, $p<0.05$); hypothesis 4d. This coincides with the business perspective that there are positive relationships among managers' risk-taking, innovation (Garcia-Granero et al., 2014), competitiveness (Gibb, 2010), and heightened performance (Madsen, 2007). Therefore, hypothesis 4 is partially supported.

Dynamic adaptation capability, the last dimension of strategic innovation capability, also illustrated significant positive relationships with new product establishment ($\beta_{05}=0.233$, $p<0.05$), business operation excellence ($\beta_{12}=0.314$, $p<0.01$), stakeholder involvement exaltation ($\beta_{18}=0.224$, $p<0.05$), and firm sustainability ($\beta_{25}=0.266$, $p<0.01$). This is consistent with the views that dynamic adaptation capability associates with

stakeholder relationship quality (Woo and Ennew, 2004), innovation performance (Grant, 2005), and business long-term relationships (Holm and Eriksson, 2000). For this reason, hypothesis 5 is fully supported.

In hypothesis 6, the regression analysis illustrated that new product establishment has significant positive relationships with stakeholder involvement exaltation ($\beta_{29}=0.375$, $p<0.01$), and firm sustainability ($\beta_{33}=0.311$, $p<0.01$). It confirms the idea that new product establishment is related to business competency, strategic choice (Howell, Shea and Higgings, 2005), marketing position advantage and business performance (Ledwith and O'Dwyer, 2009). Therefore, hypothesis 6 is fully supported.

The regression result of business operation excellence in hypothesis 7 revealed that while there is a significant positive relationship with stakeholder involvement exaltation ($\beta_{30}=0.375$, $p<0.01$), there was no significant positive impact on firm sustainability ($\beta_{34}=0.107$, $p>0.10$). This ensures the perception that business operation excellence is an adherent to stakeholder satisfaction (Bandyopadhyay, 2011). However, the insignificant result of the relationship between business operation excellence and firm sustainability highlight the important role of stakeholder involvement exaltation as a mediator. In sum, hypothesis 7 is partially supported.

Finally, stakeholder involvement exaltation illustrates a significant positive relationship with firm sustainability ($\beta_{35}=0.425$, $p<0.01$). The result assures that stakeholder involvement positively influences organizational success (Todt, 2011), and corporate sustainability (Jonge, 2006). Therefore, hypothesis 8 is fully supported.

In summary, the results in table 2 illustrate the consistent results of the significant positive relationship of the firm's strategic innovation capability and

its purposed consequences. It highlights the importance of strategic innovation capability as one of effective business tools to achieve sustainability in a rapidly changing environment. At the same time, this study also highlights five substantial dimensions of strategic innovation capability. However the insignificant relationship between business operation excellence and firm sustainability (Hypothesis 7b) has shed light on the mediating role of stakeholder involvement exaltation.

14. Contributions

This study aims to offer both theoretical contributions as well as managerial implications. The core theoretical contribution relates to conceptualizing the comprehensive view of strategic innovation capability as a multidimensional construct, which are newly developed constructs and dimensions, differentiating from prior strategic management and innovation literature. This empirical study sensitizes and explains theories associated with how a business firm achieves and fulfills its goals and, at the same time, maintains its sustained competitive advantage and superior performance in a radical business environment. It clarifies the nature of strategic innovation capability for future investigation.

Based on the dynamic capability theory, this study also attempts to propose the logical links in a conceptual model. Relying on the theory, businesses survivability and successes are subjected to business capability in generating novel innovations for industry. Vice versa, this study demonstrated that strategic innovation capability is required to enhance business performance and sustainability. It also provides a crystal-clear understanding of the relationships among five dimensions of strategic innovation capability and firm sustainability through new product establishment, business operation

excellence, and stakeholder involvement exaltation. Moreover, the primal mediating role of stakeholder involvement exaltation has been highlighted.

Furthermore, the discussions of this study also contribute to managerial practices concentrating on strategic innovation capability implementation and the usefulness of strategic innovation capability that stimulate and enhance the success and sustainability of innovative and high-tech businesses. It highlights the importance of business's strategic innovation capability that accommodates and facilitates managerial executive decision-making and resource allocation strategy. Moreover, managerial executives must be aware and realize that strategic innovation capability allows the business sector to attain long-lasting profitability and competitiveness.

15. Conclusions and Future Research

This study aims to investigate the consequences of strategic innovation capability in the Thai auto parts industry. Auto parts businesses in Thailand are faced with a highly competitive business environment. Customers are always demanding new innovative products at a lower cost. In trying to respond, businesses need to develop and improve their strategic innovation capability to establish substantial organizational innovative outcomes and sustain their business success. Therefore, to clearly understand the relationships among strategic innovation capability and its consequences; the dynamic capability was elaborated to explain the aforementioned relationships.

This study illustrates the influence of strategic innovation capability on business sustainability and, at the same time, exploring the beneath concepts of strategic innovation capability by identifying a more specific definition of strategic innovation capability and proposing the newly developed dimensions of strategic innovation capability. The data from 126

participants from auto parts businesses in Thailand highlight that strategic innovation capability dimensions are positively related to business sustainability. In more detail, the results reveal that new idea enhancement, proactive activity support, and dynamic adaptation commitment (dimensions 1, 2, and 3 successively) are essential determinants to yield superior new product establishment, business operation excellence, stakeholder involvement exaltation, and firm sustainability. Interestingly, the firm's risk-taking capability on the outcomes is only meaningful to firm sustainably. On the other hand, market-driving encouragement has no relationship with business operations. Business operation excellence shows no significant result on firm sustainability while new product establishment does. However, the relationships of excellent business operations yielded non-significant relationships. This implied that stakeholder involvement exaltation may play a mediator role on the aforementioned relationship.

In summary, strategic innovation capability definitely benefits business success and sustainability. Therefore, in order to gain the generalizability and reliability of the result, future research direction may shed more light on employing alternative research methods such as in-depth interviews or case studies in order to fulfil the clearer understanding of each construct. The future research may also employ different samples from other high-tech industries; for example ICT, software, electronics or cosmetic industry to compare and validate the results. Moreover, the mandatory factors in promoting strategic innovation capability such as organizational creativity, business learning competency, firm resource availability, technology and leadership are needed to be identified.

References:

- Bandyopadhyay, P. K., (2011), Using of six sigma in adopting business excellence model in Indian context, *International Journal of Business and Management*, 6(10), 273-277.
- Bhatnagar, R., and Viswanathan, S., (2000), Reengineering Global Supply Chains: Alliances between Manufacturing Firms and Global Logistics Services Providers, *International Journal of Physical Distribution and Logistics Management*, 30, 13-34.
- Bodlaj, M., (2010), The impact of a responsive and proactive market orientation on innovation and business performance. *Economic and Business Review*, 12(4), 241-261.
- Broll, U., Guo, X., Welzel, P., and Wong, W., (2015), The banking firm and risk taking in a two-moment decision model. *Economic Modelling*, 50, 275-280.
- Calantone, R. J., Cavusgil, S. T., and Zhao, Y., (2002), Learning orientation, firm innovation capability and firm performance, *Industrial Marketing Management*, 31(6), 515-524.
- Chen, H. S., (2011), The relationship between technology industry cluster and innovation in Taiwan, *Asia Pacific Management Review*, 16(3), 277-288.
- Clercq, D., Dimov, D., and Thongpanl, N., (2010), The moderating impact of internal exchange processes on the entrepreneurial orientation - performance relationship, *Journal of Business Venturing*, 25, 87-103.
- Damanpour, F., (1991), Organizational innovation: A meta-analysis of effects of determinants and models, *Academy of Management Journal*, 34(3), 555-590.

- Damanpour, F., and Evan, W. M., (1984), Organizational innovation and performance: The problem of "Organizational Lag", *Administrative Science Quarterly*, 29, 392.
- Deepen, J. M., Goldsby, T. J., Knemeyer, A. M., and Wallenburg, C. M., (2008), Beyond expectations: an examination of logistics outsourcing goal achievement and goal exceedance, *Journal of Business Logistics*, 29(2), 75-105.
- Dencker, K., Stahre, J., Mårtensson, L., Fasth, Å., and Akillioglu, H. (2009), Proactive Assembly Systems-Relaizing the potential of human collaboration with automation, *Annual Reviews in Control*, 33(2), 230-237.
- Dixon, S, Meyer, K., and Day M., (2014), Building Dynamic Capabilities of Adaptation and Innovation: A Study of Micro-Foundations in a Transition Economy. *Long Range Planning*, 47, 186-205.
- Dyllick, T., and Hockerts, K., (2002), Beyond the business case for corporate sustainability, *Business Strategy and the Environment*, 11, 130-141.
- Firth, B. M., (2010), *Self-regulation and adaptation: A process approach*, A thesis, Michigan State University. UMI Dissertations Publishing.
- Foo, M. D., Wong, P. K., and Ong, A. (2005), Do others think you have a viable business idea? Team diversity and judges' evaluation of ideas in a business plan competition, *Journal of Business Venturing*, 20, 385-402.
- Freeman, R. E., (1984), *Strategic management: A stakeholder approach*, Boston: Pittman.
- Garcia-Granero, A., Llopis O., Fernandez-Mesa, A., and Alegre, J., (2014), Unraveling the link between managerial risk-taking and innovation: The mediating role of a risk-taking climate, *Journal of Business Research*, 68(5), 1094-1104.
- Gebhardt, G., Carpenter G. C., and Sherry, J. F., (2006), Creating market orientation: A longitudinal, multi-firm, grounded analysis of cultural transformation, *Journal of Marketing*, 66(4), 37-55.
- Gibb, J., (2010), Risk taking, innovativeness and competitiverivalry: a three-way interaction towards firm performance, *International Journal of Innovation Management*, 15(5), 871-891.
- Gordon, L. A., Loeb, M. P., and Tseng, C., (2009), Enterprise risk management and firm performance: A contingency perspective, *Journal of Accounting and Public Policy*, 28(4), 301-327.
- Grant, R. M., (2005), *Contemporary strategy analysis*, 5th Ed., Oxford: Wiley.
- Grimaldi, R., and Grandi, A., (2005), Business incubators and new venture creation: An assessment of incubating models, *Technovation*, 25(2), 111-121.
- Hair, J. F. J., Anderson, R. E., Tatham, R. L., and Black, W. C., (2006), *Multivariate Data Analysis*, Upper Saddle River, NJ: Prentice-Hall, Inc.
- Hamel, G., and Prahalad C. K., (1994), *Competing For the Future*, Boston, MA: Harvard Business School Press.
- Hills, S. B., and Sarin, S., (2003), From market driven to market driving: An alternate paradigm for marketing in high technology industries. *Journal of Marketing Theory and Practice*, 11(3), 13-24.

- Howell, J. M., Shea, C. M., and Higgings, C. A., (2005), Champions of product innovations: Defining, Developing, and Validation a Measure of Champion Behavior, *Journal of Business Venturing*, 20, 641-661.
- Jaworski, B., Kohli, A. K., and Sahay, A., (2000), *Market-driven versus driving markets*, Journal of the Academy of Marketing Science, 28, 1, 45-54.
- Jonge, A. M., (2006), Stakeholder evaluation of sustainable development in the life sciences industry, *Journal of Cleaner Production*, 14, 152-162.
- Jundt, D., (2008), *Adaptive performance: Self-regulatory predictors and the development of a process perspective*, Doctoral dissertation proposal. UMI Dissertations Publishing.
- Kodama, M., and Shibata, T., (2014), Strategic transformation through strategic innovation capability – A case study of Fanuc, *Research and Development Management*, 44(1), 75-103.
- Kumar, N., Scheer, L., and Kotler, P., (2000), From market driven to market driving. *European Management Journal*, 18(2), 129-142.
- Kumar, S., and Gulati, R., (2010), Measuring efficiency, effectiveness and performance of Indian public sector banks, *International Journal of Productivity and Performance Management*, 59(1), 51-74.
- Lado, A. A., Boyd, N. G., Wright, P., and Kroll, M., (2006), Paradox and Theorizing within the Resource-based View, *Academy of Management Review*, 31, 115-131.
- Ledwith, A., and O'Dwyer, M., (2009), Market orientation, NPD performance and organisational performance in small firms, *Journal of Product and Innovation Management*, 26(6), 652-661.
- Lee, J. N., (2001), The impact of knowledge sharing, organizational capability and partnership quality on IS outsourcing success, *Information Management*, 38, 323-335.
- Li, X., and Barnes, I., (2008), Proactive supply risk management methods for building a robust supply selection process when sourcing from emerging markets, *Strategic Outsourcing: An International Journal*, 1(3), 252-267.
- Madsen, E. L., (2007), The significance of sustained entrepreneurial orientation on performance of firms - A longitudinal analysis, *Entrepreneurship and regional development*, 19(1), 185-204.
- McAdam, R., and McClelland, J., (2002), Individual and team-based idea generation within innovation anagement: organisational and research agendas, *European Journal of Innovation Management*, 5(2), 86-97.
- Myllykangas, P., Kujala, J., and Lehtimäki, H., (2010), Analyzing the essence of stakeholder relationships: What do we need in addition to power, legitimacy, and urgency? *Journal Business Ethics*, 96, 65-72.
- Nakata, C., and Sivakumar, K., (1996), National culture and new product development: An integrative review, *Journal of Marketing*, 60(1), 61-72.
- Nikolowa, R., (2014), Developing new ideas: Spin-outs, spinoffs, or internal divisions, *Journal of Economic Behavior and Organization*, 98, 70-88.
- Nunnally, J. C., and Bernstein, I. H., (1994), *Psychometric Theory*, New York: McGraw-Hill.
- Porter, M. E., (1980), *Competitive strategy*, New York, Free Press.

- Preda, G., (2012), *Antecedents and consequence of innovative strategy in marketing*, Doctoral thesis, West University of Timisoara. UMI Dissertations Publishing.
- Preda, G., (2013), The influence of entrepreneurial orientation and market-based organizational learning on firm's strategic innovation capability, *Management and Marketing*, 8(4), 607-622.
- Prunell, M. D., (2012), *Innovation in the electric service industry: A case study*, Doctoral dissertation. Capella University. UMI Dissertations Publishing.
- Rabinovich, E., Dresner, M. E., and Evers. P. T., (2003), Assessing the effects of operational processes and information systems on inventory performance, *Journal of Operations Management*, 21, 63-80.
- Schlegelmilch, B. B., Diamantopoulos, A., and Kreuz, P., (2003), Strategic innovation: the construct, its drivers and its strategic outcomes, *Journal of Strategic Marketing*, 11, 117-132.
- Schmitt, A., and Klarmer, P., (2015), From snapshot to continuity: A dynamic model of organizational adaptation to environmental changes, *Scandinavian Journal of Management*, 31 (1), 3-13
- Sebastiao, H. J., (2007), *The role of market driving in successful commercialization*, The degree of doctor of philosophy, The graduate school of the University of Oregon. UMI Dissertations Publishing.
- Sriboonlue, P., and Ussahawanitchakit, P., (2014), Strategic Renewal Capability and Business Success: Evidence from Auto Parts Businesses in Thailand, *Journal of International Finance and Economics*, 14(2), 45-62.
- Szekely, F., and Knirsch, M., (2005), Leadership and corporate responsibility metrics for sustainable corporate performance, *European Management Journal*, 23(6), 628-647.
- Teece, D. J., (2007), Explicating dynamic capabilities: The nature and microfoundations of (sustainable) enterprise performance, *Strategic Management Journal*, 28(13), 1319-1350.
- Teece, D. J., (2009), *Dynamic capabilities and strategic management*, Oxford: Oxford University Press.
- Teece, D. J., Pisano, G., and Shuen, A. M. Y. (1997), Dynamic capabilities and strategic management. *Strategic*
- Todt, O., (2011), The limits of policy: public acceptance and the reform of science and technology governance, *Technological Forecasting and Social Change*, 78, 902-909.
- Tsai, C. C., and Chuang, S. C. (2006), The impact of launch products (new and established products) on the effect of terminology in advertising, *The Journal of American Academy of Business*, Cambridge, 9(1), 220-223.
- Tuominen, M., Rajala, A., and Moller, K., (2004), How does adaptability drive firm innovativeness? *Journal of Business Research*, 57(5), 495-506.
- Woo, K., and Ennew, C. T., (2004), Business-to-business relationship quality: An IMP interaction-based conceptualization and measurement, *European Journal of Marketing*, 38(9/10), 1252-1271.

Wu, S. H., Lin, L. Y., and Hsu, M. Y. (2007), Intellectual capital, dynamic capabilities and innovative performance of organizations, *International Journal of Technology Management*, 39(3-4), 279-296.

Websites:

Thai Auto Parts Manufacturers Association, (2015), *TAPMA'S Member*, Available at: <http://www.thaiautoparts.or.th>, [Accessed January 2015].

Wongvanichakon, A., (2015), *The Preparation of Thai Auto-Part Markets for Free Trade Era*, Available at: www.thaiautoparts.or.th/download/Article%209.pdf, [Accessed November 2015].

Appendix 1. Result of Measure Validation in Pre-Test^a

Items	Factor Loading	Cronbach's Alpha
New Idea Enhancement (NIE)	.790 - .934	.905
Proactive Activity Support (POS)	.679 - .897	.874
Market-Driving Encouragement (MDE)	.867 - .895	.917
Risk-Taking Circumstance Acceptance (RCA)	.839 - .871	.864
Dynamic Adaptation Commitment (DAC)	.803 - .913	.777
New Product Establishment (NPE)	.838 - .934	.913
Business Operation Excellence (BOE)	.742 - .898	.883
Stakeholder Involvement Exaltation (SIE)	.714 - .885	.833
Firm Sustainability (FSU)	.746 - .905	.889

^a n = 30