ศักยภาพนวัตกรรมองค์การเชิงกลยุทธ์และความสามารถในการแข่งขันอย่างยั่งยืน: หลักฐานจากธุรกิจบรรจุภัณฑ์ในประเทศไทย

STRATEGIC ORGANIZATIONAL INNOVATION CAPABILITY AND SUSTAINABLE COMPETITIVENESS: EVIDENCE FROM PACKAGING BUSINESSES IN THAILAND

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บทคัดย่อ

นวัตกรรมองค์การถือเป็นความสามารถที่สำคัญซึ่งมีผลต่อความสามารถในการแข่งขันอย่างยั่งยืนขององค์การ งานวิจัยนี้มีวัตถุประสงค์เพื่อตรวจสอบความสัมพันธ์ระหว่างศักยภาพนวัตกรรมองค์การเชิงกลยุทธ์ที่มีต่อความสามารถในการแข่งขันอย่างยั่งยืนจากธุรกิจบรรจุภัณฑ์ในประเทศไทย โดยใช้แบบสอบถามเป็นเครื่องมือในการเก็บรวบรวมข้อมูลจาก 228 กิจการ ผลการวิเคราะห์การถดถอยแสดงให้เห็นว่า ศักยภาพนวัตกรรมองค์การเชิงกลยุทธ์มีอิทธิพลในเชิงบวกต่อการพัฒนาผลิตภัณฑ์ใหม่ การปรับปรุงองค์การอย่างต่อเนื่อง และความสามารถในการแข่งขันอย่างยั่งยืน ผลการศึกษาช่วยให้เกิดความเข้าใจมากขึ้นเกี่ยวกับการพัฒนาความสามารถในการสร้างสรรค์นวัตกรรมเชิงกลยุทธ์ให้กับองค์การ นอกจากนี้ยังได้นำเสนอแนวทางเพื่อขยายมุมมองสำหรับการทำวิจัยในอนาคต

คำสำคัญ: ศักยภาพนวัตกรรมองค์การเชิงกลยุทธ์; ธุรกิจบรรจุภัณฑ์; ประเทศไทย

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ABSTRACT

Organizational innovation has been considered as an important capability which influences on organizational competitiveness. The purpose of this research was to investigate the relationships among strategic organizational innovation capability and sustainable competitiveness. The data were gathered towards the mailed questionnaire from 228 packaging businesses in Thailand. The results of the Ordinary Least Squares (OLS) regression analysis revealed that strategic organizational innovation capability had the positive effect on new product development, continuous organizational improvement and sustainable competitiveness. The results provided the deeper understanding of the role of strategic innovation capabilities for organizations. This study also offered the suggestions for the future research.

Keywords: Strategic Organizational Innovation Capability; Packaging Businesses; Thailand.

1. INTRODUCTION

The intense competition resulting from the technological advancement and the increasing customer demand encourage many organizations to develop their capabilities in order to enhance their competitiveness and survival (Wong & Kwai-Chin, 2007). The organizational innovation capability is one of the important capabilities helping organizations in adapting and gaining higher performance in such circumstance (Henard & Szymanski, 2001). Many organizations have focused on the development of organizational innovation capability to achieve competitiveness and long-term growth (Porter, 1990; Hult, Snow, & Kandemir, 2003). However, the creation of organizational innovation capability has been challenging continuously. One of the main reasons challenge the development of the organizational innovation capability is due to the procedures for management of the development is not obvious (Adams, Bessant, & Phelps, 2006; Wong & Chin, 2007). According to Kickul & Walters (2002), the strategy plays a key role in defining and

structuring organizational process to achieve their objectives. Innovation is one of an organizational process that relies on strategy to identify the efficient ways to attain a higher level of innovation capability.

From this conception, it is interesting for studying the element of strategies that can increase organizational innovation capability in order to achieve firm competitiveness. Moreover, there are few studies conducted in this area, especially in the developing country. Therefore, the research question in this study is, "How does strategic organizational innovation capability influence on new product development, continuous organizational improvement, and sustainable competitiveness?" While the objective of this study was to investigate the relationships among the five dimensions of strategic organizational innovation capability and new product development, continuous organizational improvement, and sustainable competitiveness. The results from this study could be a guidance for businesses as well as the government sectors to determine the policies in enhancing the efficiency of firm's innovative strategies for dealing with current economic conditions.

2. LITERATURES REVIEW AND HYPOTHESES DEVELOPMENT

Strategic Organizational Innovation Capability (SOIC)

In this study, strategic organizational innovation capability was defined as the firm's ability in applying systems, policies, processes, products, ideas and new services into procedures and guidelines for business conducting (Battisti & Stoneman, 2010; Damanpour, 1991). The elements of SOIC were derived from studies of Damanpour, (1991) and Battisti & Stoneman, (2010). The study of Damanpour (1991) emphasized on the issue of how to conduct new organization in term of personnel, production and product creation, meanwhile the study of Battisti & Stonemean (2010) focused on organizing by performing new tasks. Thus, SOIC is consist of five dimensions including innovativeness development

orientation, change willingness focus, innovative capacity enhancement, incremental ideas generation, and novel creativity establishment.

Previous research found that the innovation assisted the organization in enhancing the capability in competitiveness by producing distinctive goods and services regarding new concepts, practices or inventions which have never been applied to anything or were modified from something existing to be more modern and more effective (Pagell & Krause, 2004). Therefore, the creation of SOIC could increase new product development, continuous organizational improvement and sustainable competitiveness. The conceptual model of the relationships among SOIC and its consequences were presented in Figure 1. The relationship between the variables aforementioned above and the formulation of research hypotheses described below.

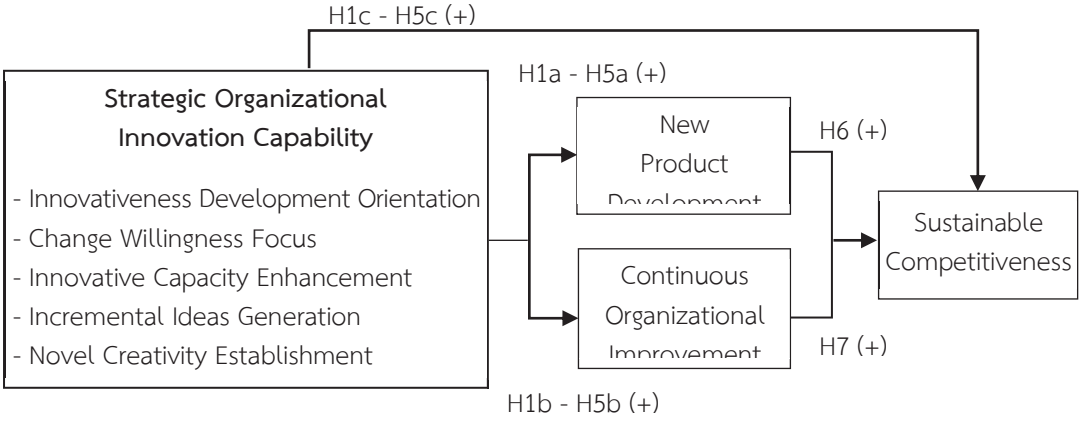

Figure 1: Conceptual Model

1) Innovative Development Orientation (IDO)

In this research, innovativeness development orientation was defined as the firm's ability to focuses on invention and changing management styles to develop the new production systems and to design the new products and the new services of the organization to be more efficiently (Menguc & Auh, 2006). Organizational innovation orientation was related to an organization's objective

focusing on being more successful as ideas are transformed into new or improved products, services, or processes (Baregheh, Rowley, & Sambrook, 2009). The development of organizational innovativeness enabled firms to attain competitive advantage. (Wang & Ahmed, 2004). Indicated that formal strategic planning processes and innovativeness as the crucial factors for the development of competitive advantage. Hence, the hypothesis was proposed as follows:

H1: IDO has a positive influence on, a) new product development, b) continuous organizational improvement, and c) sustainable competitiveness.

2) Change Willingness Focus (CWF)

The firms usually change their strategies to find the effective ways to develop their performance and competitiveness. In this research, change willingness focus was defined as the firm supports of the variant in organizational practices to increase the skills in working with participation and collaboration with personnel in their organizations (Moreira, Guimarães, & Philippe, 2016). Pangarkar (2015) suggested that organizational operation improvement and high performance were the results of a determination to change the existing strategy continuously. Therefore, the hypothesis was proposed as follows:

H2: CWF has a positive influence on, a) new product development, b) continuous organizational improvement, and c) sustainable competitiveness.

3) Innovative Capacity Enhancement (ICE)

The improvement of innovative capacity has many advantage which effects on firm performance (Vertakova, Simonenko, & Androsova, 2015). The higher innovative capacity influences on the new design of products, services, new production method, and new market new source (Weerawardena, 2003). In this research, innovative capacity enhancement referred to the firm's encourage which included the processes of learning, creativity, and practical application to get the new things or the new processes in operating continuously (Weerawardena, 2003). Enhancing innovative capacity enables firms's success by creating new ideas and

new market opportunity by replacing existing resources (Neely & Hii, 2012). Hence, the hypothesis was proposed as follows:

H3: ICE has a positive influence on, a) new product development, b) continuous organizational improvement, and c) sustainable competitiveness.

4) Incremental Ideas Generation (IIG)

Incremental ideas generation in this research referred to the firm's support to the development of existing operational concepts by gathering systematic information and knowledge to improve products and services in responding the situation (Piller & Walcher, 2006). In previous research, the primary process to develop existing products was generated idea about new product (Craig & Zimring, 2000). To generate new idea of new product various sources which were customers, top management employees, competitor, and new technologies must be used (Afrouzy, Nasseri, & Mahdavi, 2016). Whereas, incremental innovations are essential to the sustainability in economics of firm which depend on the development for comparative advantage and long-term survival in competitive research (Koberg, Detienne, & Heppard, 2003). Hence, the hypothesis was proposed as follows:

H4: IIG has a positive influence on, a) new product development, b) continuous organizational improvement, and c) sustainable competitiveness.

5) Novel Creativity Establishment (NCE)

Novel creativity establishment was defined as the firm that focuses on generating and inventing knowledge, practices, methods, steps and the new processes develop the products, and services of the organization (Drazin, Glynn, & Kazanjian, 1999; Sternberg, 2001). In the literature review, it pointed out that creativity was important to achieve the goal and to develop different strategy or creative marketing strategy and affects performance (Suh et al., 2010). Particularly, novel creativity is the ability of firms to generate new and unique ideas which are appropriate for organization operations beyond their competitors (Sternberg, 2001). Therefore, the hypothesis was proposed as follows:

H5: NCE has a positive influence on, a) new product development, b) continuous organizational improvement, and c) sustainable competitiveness.

6) New Product Development (NPD)

New product development was defined as the firm which was able to innovate, create and change the new and modern products and services to respond the customers' needs continuously (Ledwith & O'Dwyer, 2009). It is a comprehensive process from product design to sales along with conversion of market opportunities to produce the products for sale (Krishnan & Ulrich, 2001). Thus, it is also the tool to respond customer needs and the competitive environment. Previous research found that new product development was the factor to achieve the goal, survival, and renewal of industrial organizations (Ewah, Ekeng, & Umanta, 2008). Therefore, the hypothesis was proposed as follows:

H6: NPD has a positive influence on sustainable competitiveness.

7) Continuous Organizational Improvement (COI)

Continuous organizational improvement was defined as the ability of a firm to develop the processes in systematic ways as well as the development of personnel to be effective in the performances of their works (Arasli & Baradarani, 2014). Continuous improvement is the result of learning from the previous mistakes and trying to fix the problem from the knowledge gained (Kanji, 2002). According to Yuen, Thai, & Wong (2016), a firm with the ability to continuously improvement their operations could success in innovativeness which was in turn to success in current competition. Therefore, the hypothesis was proposed as follows:

H7: COI has a positive influence on sustainable competitiveness.

3. RESEARCH METHODS

1) Sample selection and data collection procedure

The packaging businesses in Thailand were selected as the population of this study. The packaging industry has become increasingly competitive due to the diverse and dynamic demands of consumers. Consequently, packaging businesses

need to develop their products and services to be more creative and innovative at all times for their survive (Garcia & Calantone, 2002). A list of 1,085 packaging businesses in Thailand obtained from the online database of the Packaging Intelligence Unit, the Division of Industrial Economics, Ministry of Industry in Thailand. According to Aaker et al. (2001), the response rate of questionnaire mail survey is about 20%. Therefore, to receive sufficient sample for data analysis, this study used number of populations as sample size. Questionnaire mail surveys were sent to managing directors or managing partners. Finally, 228 mails were returned which was equivalent to 21.25% of response rate. The testing of non-response bias was investigate the responding results after questionnaires were returned. The results revealed that there were no statistically significant differences between two groups at a 95% confidence level (Armstrong & Overton, 1977).

2) Validity and Reliability

The measurement of each variable in the conceptual model was developed from the definition of measuring through the use of a five-point Likert scale, ranging from strongly disagree = 1 to strongly agree = 5. To check the measurement validity and reliability, factor analysis and Cronbach's alpha were conducted. In this study, factor loading value of each construct were between 0.646-0.901 and higher than the cut-off 0.40. Meanwhile, the Cronbach Alpha coefficients were between 0.745 and 0.869 and higher than the standard score of 0.70 (Hair et al., 2010). Thus, all measures seemed to produce the internally consistent results. It meanst that these measures were accepted both the validity and reliability for further analysis.

3) Statistical Techniques

The Ordinary Least Squared (OLS) regression analysis was used to test research hypotheses because it was appropriate to determine the relationships between dependent and independent variables which were categorical and interval data (Hair et al., 2010).

4. RESEARCH RESULTS AND DISCUSSION

Table 1 indicated the correlations among each dimension of strategic organizational innovation capability and its consequences which were significantly and strongly positive correlated to each other at $r = 0.653$, $p < 0.01$ which the most correlations were less than 0.80 as suggested by Hair et al., (2010). Thus, in this research both correlations were not multicollinearity problems.

Table 1: Descriptive Statistics and Correlation Matrix

Variables	IDO	CWF	ICE	IIG	NCE	NPD	COI	SUC
Mean	4.334	4.328	4.326	4.373	4.328	4.333	4.321	4.290
S.D.	0.484	0.462	0.460	0.408	0.464	0.485	0.489	0.510
CWF	.515***							
ICE	.542***	.504***						
IIG	.562***	.517***	.484***					
NCE	.556***	.570***	.564***	.471***				
NPD	.567***	.489***	.579***	.511***	.614***			
COI	.452***	.402***	.497***	.443***	.653***	.544***		
SUC	.468***	.368***	.484***	.452***	.450***	.516***	.572***	
FA	0.045	0.028	-0.034	-0.034	0.013	0.055	-0.045	-0.070
FS	0.058	0.078	0.044	0,010	0.066	0.001	0.033	0.019

***p<0.01

The results of OLS regression analysis were explained in Table 2. Firstly, the result indicated that innovativeness development orientation had a significantly positive effect on new product development (β_1= 0.175, $p < 0.01$), and sustainable competitiveness (β_{22}= 0.171, $p < 0.05$) respectively. The results also confirmed that focusing on creating organizational difference by developing innovativeness influenced on changing management styles. This was consistent with studies of Craig et al. (2014) and De Mello et al. (2008) who stated that a firm with innovativeness could increase new product development and competitive

advantage. Thus, Hypotheses 1a and 1c were supported. On the contrary, innovativeness development orientation had no significant relationship with continuous organizational improvement (β_8 = 0.041, p > 0.10). This may due to the fact that the continuous organizational improvement requires more investment of resources along with change in product design and operation not only organizational innovation. Thus, continuous organizational improvement may not directly affect continuous organizational improvement. Therefore, Hypothesis 1b was not supported.

Table 2: Results of OLS Regression Analysis

Independent Variables	Dependent Variables			
	NPD	COI	SUC	SUC
	H1-5a	H1-5b	H1-5c	H6-H7
Innovativeness Development	0.175***	0.041	0.171**	
Orientation (IDO)	(0.065)	(0.068)	(0.075)	
Change Willingness Focus	0.056	-0.055	-0.009	
(CWF)	(0.064)	(0.66)	(0.073)	
Innovative Capacity	0.231***	0.145**	0.222**	
Enhancement (ICE)	(0.062)	(0.065)	(0.073)	
Incremental Ideas	0.142**	0.132**	0.180**	
Generation (IIG)	(0.061)	(0.064)	(0.072)	
Novel Creativity	0.299***	0.518***	0.151**	
Establishment (NCE)	(0.065)	(0.068)	(0.075)	
New Product Development				0.299***
(NPD)				(0.063)
Continuous Organizational				0.406***
Improvement (COI)				(0.063)
Firm Age (FA)	0.114	-0.084	-0.131	-0.138
	(0.095)	(0.099)	(0.110)	(0.105)
Firm Size (FS)	-0.930	-0.010	-0.018	0.017
	(0.096)	(0.100)	(0.111)	(0.106)

Adjusted R^2	0.497	0.451	0.317	0.381
VIF	1.894	1.894	1.894	1.434

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

Secondly, the results also showed that change willingness focus has not significantly affected new product development (β_2 = 0.056, p > 0.10), continuous organizational improvement (β_9 = -0.055, p > 0.10), and sustainable competitiveness (β_{16} = -0.009, p > 0.10). This result could explain by the finding from the study of Nijssen et al., (2005) who suggested that when the purpose of strategic change focused on financial efficiency, it may affect the reduction in operating processes in some organizations for higher profitability. Thus, Hypotheses 2a, 2b and 2c were not supported.

Thirdly, the results suggested that innovative capacity enhancement had a significant positive influence on new product development (β_3 = 0.231, p < 0.01), continuous organizational improvement (β_{10} = 0.145, p < 0.05), and sustainable competitiveness (β_{17} = 0.222, p < 0.05). This was supported by the studies of De Mello et al. (2008) and Koc & Ceylan (2007) who explained that innovative capacity enhancement could improve organization ideas which differentiate from competitors and lead to gain the new product development, efficient operation, and firm sustainable in the intense competitive situation. Thus, Hypotheses 3a, 3b, and 3c were supported.

Fourthly, the results indicated that incremental ideas generation had a significantly positive effect on new product development (β_4 = 0.142, p < 0.05), continuous organizational improvement (β_{11} = 0.132, p < 0.05) and sustainable competitiveness (β_{18} = 0.180, p < 0.05). The finding illustrated that Idea generation was the important strategic innovation capability for developing new product and improving business model which was consistent with the studies of Wu & Fang (2010) and Souto (2015). Thus, Hypotheses 4a, 4b and 4c were supported.

Five, the finding revealed that novel creativity establishment had a significantly positive influence on new product development (β_5 = 0.299, p < 0.01),

continuous organizational improvement (β_{12} = 0.518, p < 0.01) and sustainable competitiveness (β_{19} = 0.151, p < 0.05). This meant that novel creativity was the important strategic innovations to develop firm's success through a process of revaluation of product and process (Koberg, Detienne, & Heppard, 2003). Thus, Hypotheses 5a, 5b and 5c were supported.

Six, It could be seen that new product development had a significantly positive effects on sustainable competitiveness (β_{22} = 0.299, p < 0.10). This was consistent with the study of Wenxiao et al., (2017) who found that the development of new products is the point for firm sustainable development. Therefore, NPD has become an essential source of competitive advantage. Thus, Hypothesis 6 was supported.

Finally, the result also revealed that continuous organizational improvement had a positive influence on sustainable competitiveness (β_{23} = 0.406, p < 0.01). This was correspondent with the study of Steady & Lee (2004) who discovered that relying is concerned with continuous improvement which attempts to organization for enhancing competitiveness. This was also confirmed by the study of Zain & Kassim (2012) who stated that continuous improvement was affecting the competitiveness of firm. Hence, continuous improvement forces had positive effects to the function of organization. Thus, Hypothesis 7 was supported.

5. CONTRIBUTIONS

The finding of this study could to management practice in terms of: (a) focusing on encouraging a learning process that continuously generates a new operational process, (b) supporting personnel to attend trainings and seminars in order to gain new knowledge and effectively apply it in the operation of product development for being different from the competitors, and (c) determining the policy that encompasses the innovative capability development of employees in the organization which enhances their competency and competitiveness. These processes were important in producing innovative capacity enhancements, incremental

ideas generation and novel creativity establishment and lead to achieve firm sustainable.

6. CONCLUSION

The purposes of this study was investigate the relationships between strategic organizational innovation capability and its consequences of packaging businesses in Thailand. Strategic organizational innovation capability consisted of five dimensions including innovativeness development orientation, change willingness focus, innovative capacity enhancement, incremental ideas generation, and novel creativity establishment. The result indicated that all dimensions, except change willingness focus, were essential determinants to achieve new product development, continuous organizational improvement, and sustainable competitiveness. In addition, new product development and continuous organizational improvement showed significant result on sustainable competitiveness. This implied that new product development and continuous organizational improvement may play a mediator role on the aforementioned relationship. As a result, strategic organizational innovation capability definitely benefited the firm competitiveness and achieve organizational goals effectively. For the future research, it should be conducted in other industries such as food, textile and hotel. Because of these industries also need to integrate knowledge, skills, and creativity into their management capabilities in order to create competitive advantage for improving new business models to meet customer satisfaction. It could also be extended the result for more generalization.

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