

EFFECT OF FACTORS OF ORGANIZATION INNOVATION AND ORGANIZATIONAL STRATEGIC FLEXIBILITY ON FIRM PERFORMANCE: AN EMPIRICAL STUDY OF THAI ELECTRONICS SPARE PART MANUFACTURING BUSINESSES

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Abstract

The research objectives were to examine the strategy factors that affect the performance of Thai electronics spare part manufacturing business. This strategy consists of organization innovation and organizational strategic flexibility also to study the strategy factors that affect the firm performance in Thai electronics spare part manufacturing business. Furthermore, we studied the strategy factors that affect the performance of Thai electronics spare part manufacturing business. This strategy includes of organization innovation and organizational strategic flexibility, the firm size and firm experience as a control variable.

This research was conducted to develop empirical data.

The 103 firms samples used in the research consist of the Thai electronics spare part manufacturing business by using the questionnaire as a tool to gather information. After analyze and check validity showed reliability level of 0.911. It is confirmed by factor analysis of the influence and check the consistency of the model influence the performance in the Thai electronics spare part manufacturing business. The research has built on empirical data with structural equation model analysis

The results show that the firm performance was influenced by many factors such organizational strategic flexibility. The research showed a coefficient equal to 0.23 so statistically it was not significant. While the factors that influencing organization innovation in the sequence as following; the coefficient of 0.19 by statistically it was not significant, the variables control the firm size, coefficient is 0.28, statistical showed significant at the 0.01 but the level of firm experience statistically insignificant, by a coefficient equal to -1.10. The models can explain the variability to adaptation in the run up 22.10 percent.

The results of the study are being performed effectively starting from participation in the management theory also a discussion of suggestions and conclusions for future research directions.

Keywords: Organization Innovation, Organizational Strategic Flexibility, Firm performance

Introduction

Currently, the world is changing rapidly business environment, namely economy, society, politic, competition, science and technology, and so forth. Therefore, firm must be ready to face the rapid change of external and internal environment that prepare to alter their operation to fit with the customers' need, and struggle with their competitors effectively. Shyh-Rong et.al. (2008) note that the group of the effectiveness of interorganizational change into three types consist of innovation, adaptation, and interaction. An important duty of top manager are improving the position of their organization in the environment and operating under legitimacy limitations. In addition, such a constraining external environment may be forced by the top manager to change strategic operation for effectiveness (Chandler, 1962) or competitive advantage. Then, they have chooses performance measures that manifest effectiveness that have been comprised in this study. Also, the strategy factors that affect the performance in the rapid change of circumstance were consists of organization innovation and organizational strategic flexibility. Concurrently, belief systems appear within organizations regarding such things as its unique competencies (Barney, 1986; Daniel and Samuel, 1994).

The electronics manufacturing or electronic industry, particularly consumer electronics, appeared in the 20th century and has now become global industry prosperity billions of dollars. (https://en.m.wikipedia.org/wiki/Electronics_industry : February 27, 2016) According to the concept of study about to innovative and strategic flexibility of business, the suitable unit of analysis should be the firm. Therefore, the sample in this study is electronics manufacturing firm that have production facilities in Thailand.

Additionally, some evidence (Li and Gabriel, 2008) proposed that Electrical and electronic appliances as a one type of industry which a comprehensive examination of the manufacturing flexibility literature.

Organization Innovation

Innovation define as selection of an opinion that is new to the organization and an important mechanism straight which firm protect a place in the competitive world of the future. This is adequately general to utilize to the generation, agreement and implementation of new ideas, processes, products or services (Ignacio, Antonia, and Antonio, 2010). The chase of innovation is often essential to achieve competitive advantage by the intensifying rivalry and environmental uncertainty (Yuna, Zhongfeng, and Yi, 2010). Hurley and Hult (1998) presented two innovation constructs, innovativeness and capacity of innovate. Innovativeness is a dimension of the organization's orientation toward innovation (Yuna, Zhongfeng, and Yi, 2010) and a reflection a firm's trend to engage and assist new concepts, novelty, experimentation, and creative processes that may outcome in new product, services, or technological processes. Capacity to innovate is the capability of the organization to achieve new concepts, processes or products successfully (Burns & Stalkers, 1961) that we focus on the implications of innovative capacity for aspects on strategic implementation.

Organizational Strategic flexibility

Definition of strategic flexibility is a firm's ability to recognize changes in the environment, to rapidly engage resources to new courses of activity in reaction to changes, and to act promptly when it is time to failure such resource commitments (Katsuhiko and Hitt, 2004; Yuan, Zhongfeng and Yi, 2010). In addition elaborate dynamic context, strategic flexibility allows organizations the capability to reaction to context changes that it grants firms to requisite to unstable contexts and expand resources and capability to modulate to changing circumstances (Ignacio, Antonia, and Antonio, 2010). Some studies note that strategic flexibility is essential for the firm's growth (Hamel and Heene, 1994). Therefore, top manager that have modify a noticeable resource to implant, that they can offer organization with capability and devices of adaptation to desire changes on the operative and strategic level.

Firm performance

Firm performance mention to evaluative image of output and input viewpoints. Then, output measure emphasize profitability that has financial and non-finance judgment because input measure point to matter that are beneficial in achievement (Li, Huang and Tsai, 2009). Some scholars suggest that organizational effectiveness can be associate of financial and non-financial measure to offer more appraisal on firm performance (Haber and Reichel, 2005; Venkatraman and Ramanujam, 1986). Goal financial evaluate used diversity indicator such as income, cash flow, return on assets, return on equity, and so forth to evaluate firm performance (Haber and Reichel, 2005). Absolutely, much of the argument of performance is at a macro level (firm performance) (Weerawardena, O'cass and Julian, 2006). Because of the firm's objective achieves a high level of firm performance which is more likely to sustain positively in long term which may improve the whole reputation.

Therefore, based on aforementioned literature, it leads to the hypotheses posited as follows:

- H1.** Organization innovation and organizational and strategic flexibility have a direct and positive effect on firm performance.
- H2.** Organization innovation and organizational and strategic flexibility have a direct and positive effect on firm performance by firm size and firm experience as a control variable.

Research Methodology

Data collection procedure

This research collected data from the data base of the Department of Business Development in Ministry of Commerce of Thailand. The sample in this study focuses on Thai electronics spare part manufacturing businesses. We collected the data during the period of June to December 2012. The questionnaire was sent to 959 Thai electronics spare part manufacturing businesses firms. The key participants in this research were executive director, manager, managing director and managing partner of each firm. Of the survey completed and returned, only 103 were usable. The effective response rate was approximately 11%. The non-response bias was calculated by comparison of first wave and second wave data respondents (Armstrong and Overton, 1977). In this research, non-response bias was investigated by t-test and results were not significant. Thus, it appears that non-response bias does not pose a significant problem for this study.

Measurement

The questionnaire which was included four sections. The first section aimed to ask for personal information including gender, age, marital status, education level, experience, revenue per month, and position. The second section asks for business information about business type, operation capital, number of employees, operation experience, other incomes per year, location and receiving awarded about all organizational administration system.

The Third key constructs in this study are Organizational Innovation (INNO), organizational Strategic flexibility (SF), and firm performance (FP). A 5 point Rating scale was used to assess all scales.

The third measure INNO and SF. INNO was measured with six items by developed from definition and literatures pertaining all of product innovativeness and process innovativeness. Based on Fredericks (2005), Jadesadalug and Ussahawanitchakit. (2009), SF was measured with three items that focus on interval flexibility achieved through organizational structure adaptation, appropriate resource allocation, personal's self-planning and work worry-free, and freedom communication.

The last section of the questionnaire focused on FP, FP was assessed with six items focusing on evaluative reflection of output and input aspects and considered the firm's major objective and highlight profitability that has financial and non-financial assessment and adapted from Li, Huang and Tsai (2009).

Before conducting data analysis, this research evaluates quality of the instrument that implicates with validity and reliability of the measurement scale. Therefore, this study uses cronbach's alpha to measure the internal consistency which should be grater than 0.70 (Nunnally and Berstein, 1994) or greater than 0.60 (Hair et al., 2006) Table 1 Shows cronbach's alpha of all variables. The results reveal that the Cronbach's alpha coefficients for all variables manifested between 0.802-0.915 and in overall variables approximately equaled to 0.911 that are greater than 0.70 as commended by Nunnally and Berstein, 1994.

This study tests the validity of instrument to confirm that a measure or set of measures accurately represents the concept of study. Construct validity was tested by a confirmatory factor analysis (CFA) to examine the construct validity of instrument by investigating the underlying relationships of a large number of items and determining whether they can be reduced to a smaller set of factors. Thus, the construct validity used convergent validity. In this case, the size of the factor loading is considered. At a minimum of convergent validity, each of construct is tested for all factor loadings which should be greater than the 0.40 cut-off and statistically significant (Nunnally and Berstein, 1994). Additionally, a higher cut-off value of value of 0.50 was adapted (Hair et al., 2006). Hence, the factor loading of variables are shown in table 1. The factor loadings are loaded to be only one principal component. All factor loadings are greater than 0.40 and statistically significant that approved by Nunnally and Berstein, (1994). These have value ranging from 0.541-0.837. Furthermore, construct validity of this study is tapped by items in the measure. It is an appropriate theorized construct.

Table 1
Result of measure validation

Variables	Factor Loadings	Cronbach Alpha
Organizational Innovation (INNO)	0.679-0.732	0.802
Strategic Flexibility (SF)	0.669-0.812	0.915
Firm Performance (FP)	0.541-0.837	0.908

Control Variable

This study includes two control variables including firm size and firm experience because some variables may affect key variables in the conceptual model which both variables use dummy variable instead. Previous research found that scholar controlled firm size to principle out the possible alternative explanation that larger firm may have the potential to be more diverse and that firm size may therefore be driving any organizational (dis) similarity effects. Some study proposed that firm size can have a significant effect on firm performance (Akgün and other, 2007; Zhou, 2006; Rothaermel and deeds, 2006). Firm size is measured by single item by the employees number of firm (Ruiz-Ortega and García-Villaverde, 2008; Garrett, Covin and Slevin, 2009; Saowaluk and Phapruket, 2010). Firm experience reflects the length of time available in the firm to implement learning (Lee, Johnson and Grewal, 2008). Therefore, firm age or firms' experience was measured by a single item by the number of years a firm is in operation (Lau et al., 2008; Garrett et al., 2009).

4.4 Data Analysis

To validate the scales and test the hypothesized relationships, structural equation modeling (SEM) using LISREL was employed. Model fit was evaluated using eight indicators (i.e., χ^2 , χ^2/df , RMR, RMSEA, PGFI, NFI, CFI, and GFI).

Result

Table 2 presents the descriptive statistics, and correlation matrix of the studied variables. The correlation matrix suggests interdependence of the relationships.

Table 2
Descriptive statistics and Correlation matrix

	Mean	S.D.	INNO	SF	FP
INNO	3.84	0.735			
SF	3.81	0.693	0.617*		
FP	3.28	0.669	0.376*	0.340*	

* $p < 0.01$

As Fig 1 indicates, the overall model fit statistics within the recommended fit indices above the 0.90 threshold (CFI = 0.98), while the root mean square error of approximation (RMSEA) was 0.047. As Ullman (2001) and Hu and Bentler (1999) recommend, other model fit indices (chi-square and goodness-of-fit [GFI]) were included for comparison. The fit indices indicate that the model fits the data relatively well, enabling hypothesis testing.

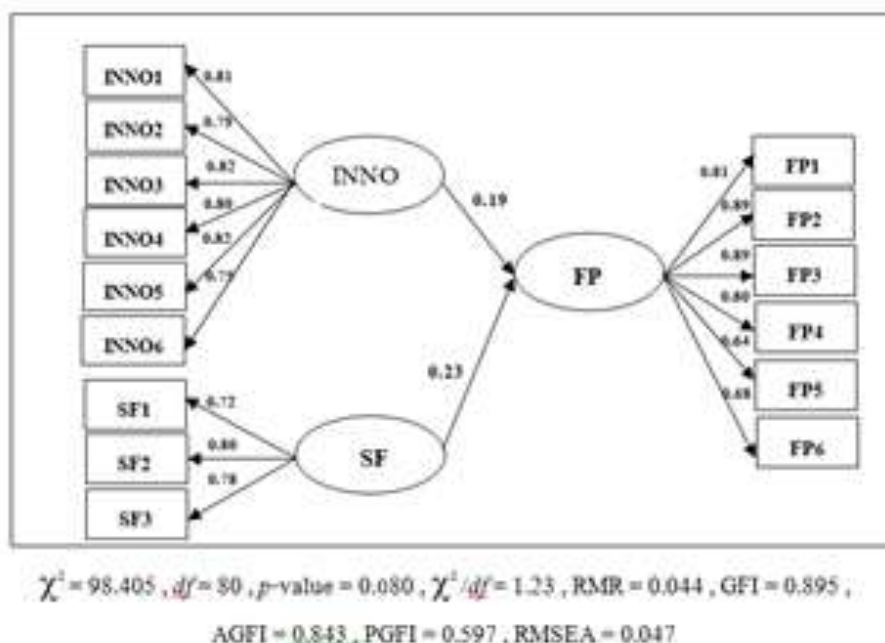


Fig. 1. Structural equation model, Model fit statistics: $\chi^2 = 98.405$ (df = 80, p -value = 0.080) ; $\chi^2/df = 1.23$; CFI = 0.98 ; RMR = 0.044 ; GFI = 0.895; AGFI = 0.843 ; PGFI = 0.597 ; RMSEA = 0.047

H1 posits that organization Innovation ($\beta=0.19, p > 0.05$) and organizational strategic flexibility ($\beta=0.23, p > 0.05$) have a direct and positive effect on firm performance; the results not support this hypothesis. Addition, there were test organization innovation ($\beta=0.38, p < 0.01$) direct positive on firm performance and organizational strategic flexibility ($\beta=0.41, p < 0.01$) direct positive on firm performance. The results also support these test.

The model can explain the variability to adaptation in the run up 16 percent. Similarly, H2 predicts that organization innovation and organizational strategic flexibility have a direct and positive effect on firm performance by firm size and firm experience as a control variable; the results also not support this hypothesis by the control variable of firm size affected firm performance ($\beta=0.28, p < 0.01$) but the firm experience did not influence firm performance ($\beta = -0.10, p > 0.05$). So the model can illustrate the variability to modification in the run up 22.10 percent

Contributions And Future Research

Theoretical Contributions

This study offers the knowledge and the literature about the relationship organization innovation that has a significant relationship with strategic actions. Theory supports the practitioners and researches relate this research which conducts the significant contribution to the literature study of resource- based view and contingency theory to interpret how firm derived and manage the capability and use the competitive advantage to be similar to the strategic decision and flexibility.

Likewise, for future research, we can use theory of the resource-based view, contingency theory, and dynamic capability to explain organizational strategy. According to the results of this study, the need for further research is explicit. Because this study discovers organization innovative has significant effect on the model likewise organizational strategic flexibility.

Managerial Contribution

From a practical and managerial contribution, many essential insights can be achieved from this study. With the absolutely understanding of created organization innovation, greater managerial strategic action and firm performance. For manufacturing industry in electronics spare part manufacturing, they may provide precedence to organization innovation and organizational strategic flexibility in strategic strategy action. This empirical research helps to devise resolutions in business problems, which the basis for success and stability of the firm are well in the future. In this study, key findings that organizational strategic flexibility has a direct influence on firm performance. Therefore, organizational strategic flexibility can be measured to examine strategic alone. The most interesting aspect of these results is the manners in which organization innovation and organizational strategic flexibility are tested in the relationship model, that both variable are not a relevant mechanism to explain strategic action, but it is a key factor of influencing their strategic when the model used only organization innovation of organizational strategic flexibility which is an independent variable.

Limitations and Future Research Directions

The limitation of this study is due to the data incur from Thai electronics spare part manufacturing. Future research can emphasize the other industries in Thailand or other countries of origin which might produce results differently from the findings of this study. Also, the limitation concerns sample size which may affect the power of statistically test. Therefore, what should be studied about is the sample size. It may use other statistical method appropriate to the hypotheses. Moreover, most of Thai electronics spare part manufacturing do outsourcing components from other countries.

Conclusion

Our results of this study are not supported with the influence of organization innovation and organizational strategic flexibility on firm performance. Therefore, there were test direct effect on firm performance by organization innovation and organizational strategic flexibility on two models (organization innovation on firm performance, $\beta=0.38$, $p < 0.01$; and organizational strategic flexibility on firm performance, $\beta=0.41$, $p < 0.01$) that were supported.

Finally, regardless of firm size and firm experience, firm capable of achieving an issue of optimality among the studied component experience superior performance. We also provide evidence regarding the strength in which organization innovation as direct effect on firm performance, as well as strategic flexibility.

Biography of the Authors

Saowaluk Jitnom, a senior lecturer for the Management Department, Faculty of Business Administration, Rajamangala University of Technology Isan, Thailand. At present is an assistant professor of business. Her interested research is on strategic orientation, strategic learning capability, learning orientation, entrepreneurial orientation, business stability, small and medium sized enterprise (SMEs) management, competitive advantage, organizational innovation, organizational strategic flexibility, perceived organizational support, organizational citizenship behavior, in-role performance.

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