

Causal model of strategic cost management tools on the corporate competitive advantage and operational performance in the industrial estates in Thailand

Chalit Polinhom¹, Pravas Penvuttikul²

¹Faculty of Accounting, Sripatum University, chalit.polinhom@hotmail.com

²Faculty of Accounting, Sripatum University, pravasyx248@gmail.com

ABSTRACT

The objectives of this research are to develop the causal model of strategic cost management tools on the corporate competitive advantage and operational performance in the industrial estates in Thailand and to examine the consistency of the causal model with the empirical data by analyzing the relationship model of the causal factor variables including the feature cost, activity based management cost, product life cycle cost, quality cost, target cost, and value chain management, the transmitting including the low cost leader model, difference leader model, and specific leader model, and the factors that are dependent variables including the competitive advantage and operational performance. The LISREL 8.80 program is applied to compare the harmonization between the developed models and the empirical data using the criteria for examining the consistency of the developed model and the empirical data. This is consistent with the analysis results of Goodness of fit index (GFI) equaling to 1.000, Adjusted Goodness of Fit Index (AGFI) equaling to 0.9680 which approaches 1, and Root Mean Squared Residual (RMR) equaling to 0.02104 which approaches zero. The research results can use the causal model of strategic cost management tools on the corporate competitive advantage and operational performance in the industrial estates in Thailand.

Keywords

Causal model, strategic cost management, corporate competitive advantage, corporate operational performance

Introduction

The strategic cost management is considered one of the important approaches for the executives to be able to use the information for the decision-making in the management. In some parts of contemporary accounting, the term "cost management" is recognized as effective allowing the organizations to achieve competitiveness and stay in the business world. At present, the competition is more intense. The world has paid attention to methods of analyzing the value chain, analysis of benefits and costs, activity based cost, and target cost. These modern methods are strategic management approaches and tools to help providing accurate and timely information (Gaurav, 2011). The strategic cost management is a modern method of accounting that will help the organization preparing the cost data facilitating the management in making the decision as well as involving in the development of strategies to achieve competitive advantages of the organizations both in short and long term. It also gives an in-depth understanding of the cost structure. These things will help the organizations move forward to increase competitiveness (Al-Naser Khalis, 2017). The organizations can use strategic cost management by using the following techniques (Moslem Sedaghati, Hamid Ravanpak Noodezh, Ali Amiri, 2015): 1) Using facilities and large production process improvement, 2) Reducing production costs, 3) Overall quality management, 4) Use of appropriate models and cost control to reduce unnecessary movement. Amidst the current highly competitive business environment, the organizations will focus on creating a sustainable competitive advantage to be able to survive and succeed. The competitive advantage can be created from the management strategies on the difference of products and services. This includes the cost management of the organizations when compared to the competitors. The successful difference will create value for customers and

help organizations setting the prices for their products better than their competitors. Especially the cost management, it is an important tool that will help the organizations succeed in achieving the long-term profitability and competitiveness by offering a price that is lower than the target cost. The strategic cost management will be useful in creating value or reducing costs in accordance with the concept of strategic positioning, value chain analysis, customer value analysis, and cost management based on product life cycle (Blocher et al. 2013). This research questions are; 1) The use of strategic cost management tools has direct impact on the corporate competitive advantage in the industrial estates in Thailand or not and how, 2) The competitive advantage has an impact on the corporate operational performance in the industrial estates in Thailand or not and how. The research objectives are; 1) To develop the causal model of strategic cost management tools on the corporate competitive advantage and operational performance in the industrial estates in Thailand, and 2) To examine the consistency of the causal model of strategic cost management tools on the corporate competitive advantage and operational performance in the industrial estates in Thailand with the empirical data.

Literature reviews

There are many ways to create competitive advantages such as creating the innovations, creating business networks, strategic cost management, etc. In creating the innovations, the entrepreneurs or organizations must invest sufficient fund or have sufficient fund to start from planning and conducting the research. Therefore, it is suitable for the entrepreneurs or large organizations. In addition, in building a business connection, the entrepreneurs or organizations need to spend quite a lot of time and effort. However, regarding the strategic cost management, the entrepreneurs

or organizations, whether small or large, can do it easily. It is considered as an internal factor which can be controlled by the entrepreneurs (Gopalakrishnan, Samuels, & Swenson, 2014). Therefore, strategic cost management is a widely accepted cost effective service tool. It consists of 6 significant elements; 1) Attribute Costing which is called the cost material with the key in creating features or unique characteristics of the product to create value so attractive that the customer is willing to pay for purchasing that product (Ramljak & Rogosic, 2012), 2) Activity Based Costing / Management provides a more reliable method in calculating the product costs focusing on the activities and the indirect cost reduction along with not paying much attention to direct cost reduction, 3) Product Life Cycle Costing is the concept in calculating product or service costs that focus on long-term operations throughout the product life cycle which is calculated as the cost of the product or service suitable for setting the product prices and measuring the profitability of products or services in the long term (Freiberg & Sujova, 2011), 4) Quality Costing is the cost from doing the activities of the organization in order to create quality in every process of the organizations including the cost of damage caused by not being able to fulfill the requirements or the customers' needs allowing the quality cost to spread in all parts of the organization and every department to have the duty in the management in the department to make the least mistake and achieve the lowest cost (Crandall & Julien, 2010), 5) Target Costing System focuses on managing the cost of Products in line with the target price or not exceeding the target focusing on both direct and indirect product cost reduction (Currie, 2012), and 6) Value Chain management which is a method of evaluating competitive advantages by defining strategic advantages and disadvantages of activities in the cycle of producing the products or services to offer for selling to the end users by studying the value chain of organizations. The costs that occur in every activity in the chain can be used to determine the cost structure of the organization (Shank and Govindarajan, 2012).

What helping deciding whether the entrepreneur or organization can create a competitive advantage over the competitors or not includes; 1) leaders in differentiation to provide products or services that are different and better than competitors, 2) Cost Leadership when businesses are able to control costs lower than competitors, the price can be set to be cheaper than competitors until being the source of increasing sales and profits, and 3) Focus leader to choose to differentiate or choose to be part of the market sufficiently for doing successful business (Hansen, & Mowen, 2013). In addition, creating a competitive advantage can also create a firm's performance, consisting of 1) Financial Performance including the sales, profits, market shares, etc. and 2) Non-Financial Performance including the product quality, customer satisfaction, customer re-use of products and services, etc. (Anna Afonina, 2015).

The industrial estates are growing steadily and the business competition is quite high. In addition, Thailand also opens free trade and exports products to meet the needs of the world market. However, by opening free trade, the industry has competitors both domestically and internationally. Various factors and environmental conditions affect the

production cost of the industry and business. Currently, the government has stipulated the Thailand 4.0 policy as the economic development model of the Thai government. This is a good opportunity for Thai industrial estates to manage their business operations in response to government and industrial policies to create added value and sustainable growth. Therefore, this research study will develop the causal model of strategic cost management tools on the corporate competitive advantage and operational performance in the industrial estates in Thailand. The objectives of this research are to develop the causal model of strategic cost management tools on the corporate competitive advantage and operational performance in the industrial estates in Thailand and to examine the consistency of the causal model of strategic cost management tools on the corporate competitive advantage and operational performance in the industrial estates in Thailand with the empirical data.

Research methodology

The research on “the causal model of strategic cost management tools on the corporate competitive advantage and operational performance in the industrial estates in Thailand” applies the Quantitative Research Methods to find the answers to the Exploratory and Confirmatory Questions resulting in more Credibility of the research results.

Population and sample group

Population consists of the account executives, financial executives, executives stipulating the strategies or other related matters of industrial estates in Thailand with the data from the total of 5,790 companies (data from the Industrial Estate Authority of Thailand as on 7th November, 2018)

Sampling consists of the account executives, financial executives, executives stipulating the strategies or other related matters of industrial estates in Thailand. In considering the suitability of the sample group used in this research, the researcher considers the size of sample group suitable for the data analysis using the Structural Equation Modeling (SEM) too. The researcher defines the sample group according to the Rule of Thumb. The sample size is appropriate for the work with component analysis, route analysis, and structural equation model with suitable sample size recommendation by specifying the sample scope to be no more than 200 samples used in the study (Kline, 2011; Shumacker & Lomax, 2010). This is correspondent to the samples obtained from the sample size calculation using the formula of Krejcie & Morgan (1970). Therefore, this research has collected the data from the total of 400 samples. In this study, the data is collected from 400 companies comprising the sample group whose data can be totally used with the Stratified Random Sampling.

Tools for data collection

For the quantitative research, the researcher uses the questionnaires. The survey in this section is about general data of the respondents, current situation of the organization

regarding the use of strategic cost management tools on the corporate competitive advantage and operational performance in order to expand the capabilities of cost data and the level of competitiveness. The data is used in analyzing and testing the research hypothesis further. The characteristics of the questionnaires consist of 1. Survey on general data of the respondents and 2. Survey on respondents' opinions on the 1st issue, the importance level of the factors of the cost system to be used in the organizations, the 2nd issue, level of competence in the increasing cost data of the organization, the 3rd issue, level of competitiveness of the organizations, the 4th issue, additional opinions of the respondents using the questionnaires with 5 Rating Scale of each issue according to the Likert Technique attitude test.

Data analysis: For this research, the data analysis is processed as follows:

1. Basic data about samples and variables. The data is analyzed by frequency distribution, percentage, mean, standard deviation, skewness, kurtosis and confidence of observed variables as well as examining the basic agreement on analysis using SPSS program.
2. The consistency of the Measurement Model is examined to confirm that the constructed or the developed tools are structured according to the specified components. It can be confident that each group of observed variables is a suitable indicator for the specified latent variable using confirmation factor analysis in LISREL 8.80 program.
3. The relationships among variables are analyzed using Pearson correlation coefficient and t-test to be used as data for checking the consistency of the pattern of structural relations.
4. The development on causal model of strategic cost management tools on the corporate competitive advantage and operational performance in the industrial estates in Thailand is analyzed. The researcher analyzes the model of relationship among factors that cause variables which are ATTC, ACTC, PROC, QUAC, TARC, and VALU. The transmitting factors are cost leaders (COST), Differentiation leaders (DIFF), and Focus leaders. The dependent variable factors or the corporate competitive advantage and operational performance of the industrial estates in Thailand include the Financial implementation (FINA) and the Non-Financial Performance Model (NFIN) using the Maximum Likelihood method and the LISREL 8.80 program to compare the harmonization between the developed model and empirical data using the criterion for checking the consistency of the model and the empirical data as well as create harmony between the developed model and the empirical data.

Research results

The research results of analyzing the causal influence of feature cost, activity-based management costs, product life cycle cost, quality cost, target cost, and value chain management. The transmitting factors of the competitive advantages are low cost leaders, differentiation leaders, and focus leaders. The factors those are dependent variables or the operational performance are financial performance and non-financial results to answer research questions and

research hypotheses. The researcher presents the results of Direct Effects (DE), Indirect Effects (IE) and Total Effects (TE) which can be presented in Table 1 showing the consistency of the test of impact on using the strategic cost management tools on the corporate competitive advantage and operational performance of industrial estates in Thailand. This is based on the hypothesis and empirical data. It is found that the model is consistent with the empirical data by considering the statistics used to check the consistency between the model and the empirical data. For example, the Chi-Square is equal to 6.20, degree of freedom is 8, probability (p) is 0.6249. Chi-Square is not significantly different from zero. This shows the acceptance of the developed main assumption that causal model of factors affecting the corporate competitive advantage and operational performance of industrial estates in Thailand is in harmony with empirical data corresponding to the analysis results. The Goodness of fit Index (GFI) is 1.000. The Adjusted Goodness of fit Index (AGFI) is 0.9680 which is close to 1. The Root Mean Residual (RMR) is equal to 0.02104 approaching zero.

Regarding the financial operational performance (FINA), the study reveals that the factors of cost leaders (COST), Differentiation leaders (DIFF), and Focus leaders (Focus) can explain the changes in FINA for 75.00%. The FINA has positive direct influence significantly at the level of .05 from the factors of cost leaders (COST) and Focus leaders (Focus) with the influence of 0.26 and 1.75, respectively. The negative direct influence is received significantly at the level of .05 from the factors of Differentiation leaders (DIFF) with the influence of -1.06. The positive indirect influence is received significantly at the level of .05 from the factors of ATTC, PROC, and VALU through the factors of cost leaders (COST), Differentiation leaders (DIFF), and Focus leaders (Focus) with the influence of 0.16, 0.13, and 0.37, respectively. The equation can be described as below:

$$\text{FINA} = 0.26(\text{COST}) - 1.06(\text{DIFF}) + 1.75(\text{FOCU}), R^2 = 0.75$$

Regarding the non-financial operational performance (NFIN), the study reveals that the factors of cost leaders (COST), Differentiation leaders (DIFF), and Focus leaders (Focus) can explain the changes in NFINA for 83.00%. The NFINA receives the positive direct influence significantly at the level of .05 and .10 from the factors of cost leaders (COST), Differentiation leaders (DIFF), and Focus leaders (Focus) with the influence of 0.20, 0.325, and 0.38, respectively. The positive indirect influence is received significantly at the level of .05 from the factors of ATTC, PROC, and VALU through the factors of cost leaders (COST), Differentiation leaders (DIFF), and Focus leaders (Focus) with the influence of 0.15, 0.09, and 0.41, respectively. The equation can be described as below:

$$\text{NFIN} = 0.20(\text{COST}) + 0.35(\text{DIFF}) + 0.38(\text{FOCU}), R^2 = 0.83$$

Regarding the factor of cost leaders (COST), the study reveals that the factors of ATTC, PROC, QUAC, TARC, and VALU can explain the changes in the factor of cost leaders (COST) for 85.00%. The factor of cost leaders (COST) receives the positive direct influence significantly at the level of .05 and .10 from ACTC, ACTC, VALU, and TARC with the influence of 0.091, 0.160, 0.660, and 0.062,

respectively. The equation can be described as below:

$$\text{COST} = 0.091(\text{ATTC}) + 0.16(\text{ACTC}) + 0.036(\text{PROC}) - 0.026(\text{QUAC}) + 0.062(\text{TARC}) + 0.66(\text{VALU}), R^2 = 0.85$$

Regarding the factor of Differentiation leaders (DIFF), the study reveals that the factors of ATTC, ACTC, PROC, QUAC, TARC, and VALU can explain the changes in the factor of Differentiation leaders (DIFF) for 71.00%. The factor of Differentiation leaders (DIFF) receives the positive direct influence significantly at the level of .05 from ATTC, PROC, TARC, and VALU with the influence of 0.18, 0.10, 0.13, and 0.40, respectively. The equation can be described as below:

$$\text{DIFF} = 0.18(\text{ATTC}) - 0.022(\text{ACTC}) + 0.099(\text{PROC}) - 0.013(\text{QUAC}) + 0.13(\text{TARC}) + 0.40(\text{VALU}), R^2 = 0.71$$

Regarding the factor of Focus leaders (Focus), the study reveals that the factors of ATTC, ACTC, PROC, QUAC, TARC, and VALU can explain the changes in the factor of Focus leaders (Focus) for 69.00%. The factor of Focus leaders (Focus) receives the positive direct influence significantly at the level of .05 from ATTC, PROC, and VALU with the influence of 0.19, 0.13, and 0.36, respectively. The equation can be described as below:

$$\text{FOCU} = 0.19(\text{ATTC}) - 0.034(\text{ACTC}) + 0.13(\text{PROC}) + 0.042(\text{QUAC}) + 0.073(\text{TARC}) + 0.36(\text{VALU}), R^2 = 0.69$$

Table 1 shows an analysis of the influence of variables on the models of ATTC, ACTC, PROC, QUAC, TARC, and VALU, models of cost leaders (COST), Differentiation leaders (DIFF), and Focus leaders (Focus) affecting the financial operational performance model and the non-financial operational performance model

Effect factors	Causal factors																							
	ATTC			ACTC			PROC			QUAC			TARC			VALU			COST		DIFF		FOCU	
	TE	IE	DE	TE	IE	DE	TE	IE	DE	TE	IE	DE	TE	IE	DE	TE	IE	DE	TE	DE	TE	DE	TE	DE
COST	0.09 (0.0)	-	0.090 (0.0)	0.16 (0.0)	-	0.16 (0.0)	0.036 (0.0)	-	0.036 (0.0)	0.0 (0.0)	-	0.0 (0.0)	0.0 (0.0)	-	0.0 (0.0)	0.6 (0.0)	-	0.6 (0.0)	-	-	-	-	-	-
DIFF	0.18 (0.0)	-	0.18 (0.0)	0.0 (0.0)	-	0.0 (0.0)	0.1 (0.0)	-	0.1 (0.0)	0.0 (0.0)	-	0.0 (0.0)	0.13 (0.0)	-	0.13 (0.0)	0.4 (0.0)	-	0.4 (0.0)	-	-	-	-	-	-
FOCU	0.19 (0.0)	-	0.19 (0.0)	0.0 (0.0)	-	0.0 (0.0)	0.1 (0.0)	-	0.1 (0.0)	0.0 (0.0)	-	0.0 (0.0)	0.0 (0.0)	-	0.0 (0.0)	0.3 (0.0)	-	0.3 (0.0)	-	-	-	-	-	-
FINA	0.16 (0.0)	0.16 (0.0)	-	0.0 (0.0)	0.0 (0.0)	-	0.1 (0.0)	0.1 (0.0)	-	0.0 (0.0)	0.0 (0.0)	-	0.0 (0.0)	0.0 (0.0)	-	0.3 (0.0)	0.3 (0.0)	-	0.2 (0.0)	0.2 (0.0)	-	-	1.7 (0.0)	1.7 (0.0)
NFIN	0.15 (0.0)	0.15 (0.0)	-	0.0 (0.0)	0.0 (0.0)	-	0.0 (0.0)	0.0 (0.0)	-	0.0 (0.0)	0.0 (0.0)	-	0.0 (0.0)	0.0 (0.0)	-	0.4 (0.0)	0.4 (0.0)	-	0.2 (0.0)	0.2 (0.0)	0.3 (0.0)	0.3 (0.0)	0.3 (0.0)	0.3 (0.0)

$\chi^2/\text{df} = 6.02$, CFI = 1.000, GFI = 1.000, AGFI = 0.980, RMSEA = 0.000, SRMR = 0.004

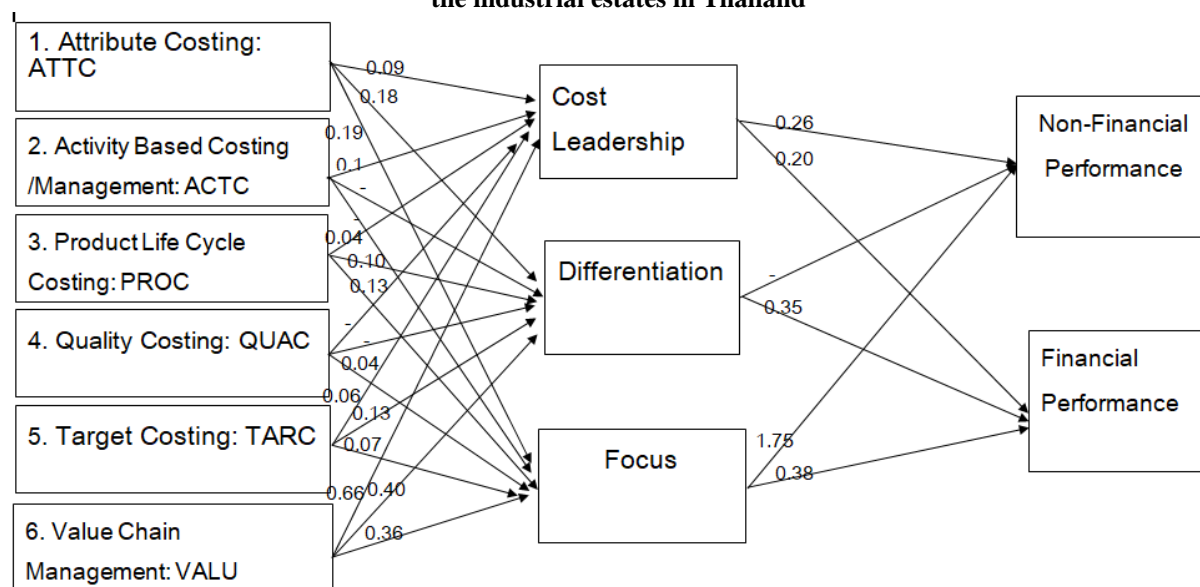
Table 2 shows the weight of influence for the models of cost leaders (COST), Differentiation leaders (DIFF), and Focus leaders (Focus) affecting the financial operational performance model and the non-financial operational performance model

Variables	Weight of influence			
	Coefficients	SE	t	Standard Coefficients
COST = 0.091(ATTC) + 0.16(ACTC) + 0.036(PROC) - 0.026(QUAC) + 0.062(TARC) + 0.66(VALU), R² = 0.85				
ATTC	0.091	0.046	1.97	0.08
ACTC	0.160	0.045	3.51	0.16
PROC	0.036	0.047	0.77	0.03
QUAC	-0.026	0.035	-0.75	-0.02
TARC	0.062	0.038	1.64	0.06
VALU	0.660	0.037	17.69	0.65
DIFF = 0.18(ATTC) - 0.022(ACTC) + 0.099(PROC) - 0.013(QUAC) + 0.13(TARC) + 0.40(VALU), R² = 0.71				
ATTC	0.18	0.050	3.38	0.20
ACTC	-0.022	0.049	-0.44	-0.03
PROC	0.099	0.050	1.98	0.11
QUAC	-0.013	0.039	-0.34	-0.01
TARC	0.130	0.043	3.05	0.16
VALU	0.400	0.041	9.84	0.48
FOCU = 0.19(ATTC) - 0.034(ACTC) + 0.13(PROC) + 0.042(QUAC) + 0.073(TARC) + 0.36(VALU), R² = 0.69				
ATTC	0.190	0.053	5.58	0.22
ACTC	-0.034	0.051	-0.66	-0.04
PROC	0.130	0.053	2.37	0.14
QUAC	0.042	0.040	1.04	0.05
TARC	0.073	0.043	1.68	0.09
VALU	0.360	0.043	8.41	0.45
FINA = 0.26(COST) - 1.06(DIFF) + 1.75(FOCU), R² = 0.75				
COST	0.26	0.13	2.03	0.31
DIFF	-1.06	0.51	-2.08	-1.07
FOCU	1.75	0.38	4.56	1.68
NFIN = 0.20(COST) + 0.35(DIFF) + 0.38(FOCU), R² = 0.83				
COST	0.20	0.053	3.75	0.24
DIFF	0.35	0.22	1.61	0.35
FOCU	0.38	0.28	1.35	0.35

According to Table 2 about the financial operational performance (FINA), it is found that the factors affecting the financial operational performance significantly at the level of .05 include the factors of cost leaders (COST) and Focus leaders (Focus) with the standard influence of 0.31, -1.07, and 1.68, respectively. For the non-financial operational performance (NFIN), it is found that the factors affecting the non-financial operational performance (NFIN) significantly at the levels of .05 and .10 include the factors of cost leaders (COST), Differentiation leaders (DIFF), and Focus leaders (Focus) with the standard influence of 0.24, 0.35, and 0.35, respectively. For the factor of cost leaders (COST), it is found that the factors affecting the cost

leaders (COST) significantly at the level of .05 include the factors of ACTC, ACTC, VALU, and TARC with the standard influence of 0.08, 0.16, 0.06, and 0.65 respectively. For the factor of Differentiation leaders (DIFF), the factors affecting the factor of Differentiation leaders (DIFF) significantly at the level of .05 include the factors of ATTC, PROC, TARC, and VALU with the standard influence of 0.20, 0.11, 0.16, and 0.48, respectively. For factor of Focus leaders (Focus), it is found that the factors affecting the factor of Focus leaders (Focus) significantly at the level of .05 include the factors of ATTC, PROC, and VALU with the standard influence of 0.22, 0.14, and 0.45, respectively.

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Conclusion and discussion of results

From studying the causal model of strategic cost management tools on the corporate competitive advantage and operational performance in the industrial estates in Thailand, it is found that each company has the technic in accounting and management including Attribute Costing (ATTC), Activity Based Costing /Management (ACTC), Product Life Cycle Costing (PROC), Quality Costing (QUAC), Target Costing (TARC), and Value Chain Management (VALU). There are both direct and indirect influences resulting in the business owners to be used as the tools in measuring and increasing the profits for the operations. Meanwhile, the operational costs can be reduced. Using the Strategic Costing Management Technique also has direct and indirect influences on the competitive advantage including 1) the organizations can become leaders in differentiation to provide products or services that are different and better than competitors, 2) Cost Leadership when businesses are able to control costs lower than competitors, the price can be set to be cheaper than competitors until being the source of increasing sales and profits, and 3) Focus leader to choose to differentiate or choose to be part of the market sufficiently for doing successful business (Hansen, & Mowen, 2015). This includes the Firm Competitive Advantage having direct and indirect influences on the Firm Performance including 1) Financial Performance meaning the figures of profits and losses of the business, and 2) Non-Financial Performance. The study of Maurilio Alves de Melo (2017) applied the independent variable as the cost management with the dependent variable as creating competitive advantage. It was found that the small industrial companies located in the cities of Brazil suggested that the competitive advantage came from difference and low costs. The study using the independent variable as the strategic accounting management with the dependent variable as the cost of expenses in the organization was conducted on the sample

of 50 company managers in Croatia. The study results showed that different accounting strategies would positively affect different strategic management strategies and help reducing the cost of organization as well (Branka Ramljak, 2017). This agreed with Ploenhad et al., 2019. The study evaluated the efficiency of the supply chain management (SCM), competitive advantage and operational performance of the companies. It also examines the role of the transmitting variables of the competitive advantage between supply chain management and the relationship with the efficiency of the organization. The Partial Least Square-Structural Equation Modeling (PLS-SEM) is applied in examining the relationship between the variables under the study by collecting data from the supply chain management of the food industry in Thailand. The study reveals that the efficient practices of the supply chain management can increase the competitive advantage and the operational performance of the organizations. This study also reveals that the company's competitive advantage is the medium for supply chain management and relationships with organizational performance as same as the SEM-CBM technique used in testing the hypothesized relationships. In examining the relationship between the efficiency of the supply chain and the operational performance of the companies, the study is, at the same time, interested in examining the role of transmitting variables in information strategy. The findings of the study support the theoretical foundations and assumptions proposed in the present study. This study will be useful for policy makers and practitioners in understanding relevant issues, risks of the supply chain, supply chain integration, and supply chain efficiency (Sutduean, Harakan & Jernsittiprasert, 2019). This is in accordance with the research studies with the goal of identifying the impact of cloud system adoption on the company sustainability and the competitive advantage in being the transmitting variables of the cloud that enable integration with suppliers in the Thai manufacturing industry. For example, Thailand manufacturing

organizations have used cloud system in their companies and the management of 32 agencies were surveyed using questionnaires. The subsequent data was analyzed on AMOS and SPSS for hypothesis testing and sequential screening purposes. The results confirm the significant positive impact of the adoption of the cloud system on company sustainability and competitive advantage along with the role of the key transmitting variables of the cloud system that is implemented with the supplier integration. The initiative of this study is to include competitive advantage in the form of examining relationships with both cloud deployment and cloud integration (Chetthamrongchai & Jermsittiparsert, 2019) for empirical study of relationships between the model and the impact on the company's competitive efficiency. There are model sizes including process and product prototypes with the vast development of supply chain integration in the company. The focus is on the company's quality management viewed by integrating supply chain systems. The integrated quality supply chain system has achieved significant worldwide attention that helps the companies to work altogether strategically both external and internal supply chain processes to achieve high levels of quality and competitive efficiency. This survey method is used to create the questionnaires to collect data from manufacturers in Thailand. The data collected from those companies was in the form that 304 respondents were analyzed using statistical tools including SPSS and AMOS by using descriptive statistics, CFA and SEM reliability tests to clearly identify the theoretical relationship between variables. The results of this study clearly showed that both the process and the product prototype mean positive relationship with the company's competitive efficiency. It also refers to the role of transmitting variables on the impact of quality integration between the underlying supply chain and efficiency. That means the use of integrated supply chains reinforce improved quality development and product innovation. (Jermsittiparsert Joemsittiprasert & Syazali, 2019).

For the study collecting the data to be analyzed by PLS for hypothesis testing, the objective is to examine the role of human resource management (selection, compensation, training, and development) in the Thai Pharmaceutical organizational performance. In this study, the test of the role of transmitting variables related to the use of HR with the organizational performance of Thai Pharmaceutical is on the relationship proposal. The data was collected from 300 employees from Thai Pharmaceutical. The results of this study show that the use of HR is important to the operations of Thai Pharmaceutical. The implementation of human resource management guidelines can significantly increase the company's performance. In addition, the study found significant implications for the role of transmitting variables in the association of HR used with Thai Pharmaceutical (Sriviboon & Jermsittiparsert, 2019).

The current studies are interested in examining the role of transmitting variables of knowledge management and the role of transmission variables of additive production (Industry 4.0) in the relationship between management knowledge and results. The operation of KPMG Thailand by Partial Least Square Structural Equation Analysis Modeling is used for the analysis of the relationships between

variables involved in the study. The results show once again an interesting finding of the accuracy and reliability of the developed measures. These measures act beneficially as the tool to assess KM's ability to view results. The results also indicate that it is essential for managers to understand the company's capabilities before setting expectations. In addition, the results provide important insights into the ability of the organizations (Jermsittiparsert & Boonratanakittiphumib, 2019). The studies examine the role of social and technology challenges in achieving sustainable competitive advantage and sustainable business practices. To achieve this objective, the data is compiled from Malaysian SMEs, the opinions of the SME executive officers regarding the role of society and technological challenges in achieving sustainable competitive advantage and business performance. There is an email survey to gather the information. There were 500 questionnaires distributed from SMEs management staffs. Questionnaires were distributed using simple random sampling methods by using the equation modeling structure. The results show that social and technology challenges play an important role in promoting sustainable competitive advantage and sustainable business operations. The strategic planning is the key to reflect the positive role of social and technology factors about sustainable competitive advantage. The results of this study are beneficial to operators and will help their strategies reflect a sustainable competitive advantage and sustainable business performance (Haseeb et al., 2019).

The causal model of strategic cost management tools on the corporate competitive advantage and operational performance in the industrial estates in Thailand is suitable for being applied in the current business competition having the group of operators, accounting executives, financial executives, and executives stipulating the strategies including the senior executives in planning the strategies or marketing of the organizations operating in Thailand. The strategic cost management tools are used consistently to create competitive advantage by using strategic cost management tools which leads to business competition that has a relatively high advantage. Thailand also opens free trade and exports products to meet the needs of the world market. From the opening of free trade, the industry has competitors both domestically and internationally. Various factors and environments result in the impact on the production cost of the industry. In this situation, the executives are aware of the importance of accounting data by providing cost information that is consistent with the direction of management. Such cost data is useful only when it can be used to support the management for the causal model of strategic cost management tools on the corporate competitive advantage and operational performance in the industrial estates in Thailand.

References

- [1] Al-Naser Khalis. (2017). The Integration between Strategic Cost Management Techniques to Improve the Performance of Iraqi Manufacturing Companies. Asian

- Journal of Finance & Accounting, 9(1), 210-223.
- [2] Anna Afonina. (2015). Strategic Management Tools and Techniques and Organizational Performance: Findings from the Czech Republic. *Journal of Competitiveness*, 7(3). 19-36.
- [3] Branka Ramljak. (2017). Performance Measurement: Quality, Cost, and Time Is New System: So Called Strategic Cost Management. *Research Journal of Finance and Accounting*. 7(17),1-11.
- [4] Blocher, E., et al. (2013). *Cost management: a strategic emphasis*. Sixth edition. New York: McGraw-Hill/Irwin
- [5] Chetthamrongchai, P. & Jermisittiparsert, K. (2019). Modernizing Supply Chain through Cloud Adoption: Role of Cloud Enabled Supplier Integration in Gaining Competitive Advantage and Sustainability. *International Journal of Supply Chain Management*, 8(5), 708-719.
- [6] Cradall, R. E., Julien, O, (2010). *Measuring the Cost of Quality*, in: *Industrial Management & Data Systems*.
- [7] Currie, J. (2012). *Target costing: a tool for Strategic performance Management*. Certificate Public Accountant
- [8] Freiberg, F. & Sujova E. (2011). *Product life cycle cost management*. Acta facultatistehnica. Zvolen – Slovakia.
- [9] Gaurav Kumar. (2011). *Capital Markets business in India*. CBRE Group, Inc.
- [10] Gopalakrishnan, M., Libby, T., Samuels, J.A., Swenson, D.(2014). The effect of cost goal specificity and new product development process on cost reduction performance. *Accounting, Organizations and Society*. 42, 1-11.
- [11] Hansen, D. R. & Mowen, MM. (2013). *Cornerstones of Cost Management*, Second Edition. Mason, Ohio: South-Western Cengage Learning.
- [12] Haseeb, M., Hussain, H., Kot, S., Androniceanu, A., & Jermisittiparsert, K. (2019). Role of Social and Technological Challenges in Achieving a Sustainable Competitive Advantage and Sustainable Business Performance. *Sustainability*, 11(14), 3811.
- [13] Jermisittiparsert, K., Joemsittiprasert, W., & Syazali, M. (2019). Impact of Process and Product Modularity on Competitive Performance of Thailand Manufacturing Firms: Mediating Role of Supply Chain Quality Integration. *International Journal of Supply Chain Management*, 8(3), 95-106.
- [14] Jermisittiparsert, K. & Boonratanakittiphumi, C. (2019). The Mediating Role of Knowledge Management and the Moderating Role of Additive Manufacturing (Industry 4.0) in the Relationship between Knowledge Management Capability and Firm Performance: A Case of KPMG Thailand. *International Journal of Innovation, Creativity and Change*, 8(8), 430-449.
- [15] Kline, R. B. (2011). *Methodology in the Social Sciences. Principles and practice of structural equation modeling* (3rd ed.). Guilford Press.
- [16] Krejcie, R. V. & Morgan, D. W. (1970). Determining Sample Size for Research Activities. *Educational and Psychological Measurement*, 30(3), 607-610.
- [17] Maurilio Alves de Melo & Rodrigo José Guerra Leone. (2017). Alignment between Competitive Strategies and Cost Management: a Study of Small Manufacturing Companies. This article has a Creative Commons License - Attribution 3.0 Not Adapted, 12(5), 78-96.
- [18] Moslem Sedaghati, Hamid Ravanpak Noodezh , Ali Amiri.(2015). Investigate The Relationship Between Cost Management Strategy, Organization Size, Growth Options and The Performance Of Companies In Tehran Stock Exchange. *Ciência e Natura*, Santa Maria, 37(1), 104–115.
- [19] Ploenhad, J., Laoprawatchai, P., Thongrawd, C., & Jermisittiparsert, K. (2019). Mediating Role of Competitive

Advantage on the Relationship of Supply Chain Management and Organizational Performance on the Food Industry of Thailand. *International Journal of Supply Chain Management*, 8(4), 216-226.

- [20] Ramljak, B., Rogošić, A. (2012). Ethical Behavior of Professional Accountants. *Oeconomica Jadertina*
- [21] Shank, J. K., & Govindarajan, V. (2012). Strategic Cost Management and Value Chain. Retrieved from [http://www. Study mode.com/essays/strategic-cost-management-and the value](http://www.Studymode.com/essays/strategic-cost-management-and-the-value).
- [22] Schumacker, R.E. and Lomax, R.G. (2010). *A Beginners Guide to Structural Equation Modeling*. Routledge, New York.
- [23] Sriviboon, C. & Jermstittiparsert, K. (2019). Influence of Human Resource Practices on Thai Pharmaceutical Firm Performance with Moderating Role of Job Involvement. *Systematic Reviews in Pharmacy*, 10(2), 234-243.
- [24] Sutduean, J., Harakan, A., & Jermstittiparsert, K. (2019). Exploring the Relationship between Supply Chain Integration, Product Innovation, Supply Chain Performance and Firm Performance: Does Supply Chain Information Strategy Matter?. *International Journal of Innovation, Creativity and Change*, 5(2), 175-192.