

## Success Factors on Strategic Quality Management Costing: An Empirical Investigation of ISO 9000 Manufacturing Firms in Thailand

การศึกษาปัจจัยที่ส่งผลต่อความสำเร็จของการบัญชีต้นทุนเพื่อการจัดการ  
คุณภาพเชิงกลยุทธ์: การตรวจสอบเชิงประจักษ์ของธุรกิจผลิตที่ได้รับ  
การรับรอง ISO 9000 ในประเทศไทย

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### ABSTRACT

This study aims to investigate the influence of success factors on strategic quality management costing (SQMC). This study proposes a conceptual framework with contingency theory. The ISO 9000 manufacturing firms in Thailand were selected as the sample. A questionnaire was used for collecting the data. There were 195 accounting executives returned the questionnaire and participated in the study. The results of the study showed that long-term vision and proactive accounting practice have a positive influence on strategic quality management costing. This study provides a better understanding of how the firm can encourage SQMC. Thus, the findings confirm and recommend that firms should focus on success factors which include long-term vision and proactive accounting practice in order to achieve effective implementation of the SQMC. Moreover, directions for future research are provided.

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## บทคัดย่อ

การศึกษานี้มีวัตถุประสงค์เพื่อทดสอบอิทธิพลปัจจัยความสำเร็จที่มีต่อการบัญชีต้นทุนเพื่อการจัดการคุณภาพเชิงกลยุทธ์ ตามแนวคิดของทฤษฎีการบริหารเชิงสถานการณ์ในการอธิบายความสัมพันธ์ของตัวแปรภายใต้กรอบแนวคิดของการศึกษา โดยใช้แบบสอบถามในการเก็บรวบรวมข้อมูลจากกลุ่มตัวอย่าง คือผู้บริหารฝ่ายงานบัญชีของธุรกิจอุตสาหกรรมผลิตที่ได้รับการรับรองมาตรฐาน ISO 9000 ในประเทศไทย จำนวน 195 คน ผลการศึกษาค้นพบว่า วิทยาลัยนระยะยาวและการปฏิบัติงานบัญชีเชิงรุกมีอิทธิพลในเชิงบวกต่อการบัญชีต้นทุนเพื่อการจัดการคุณภาพเชิงกลยุทธ์ การศึกษามุ่งเน้นเพื่อสร้างความเข้าใจอย่างชัดเจนว่ากิจการจะสามารถส่งเสริมในเรื่องของการบัญชีต้นทุนให้เกิดการจัดการคุณภาพเชิงกลยุทธ์ได้อย่างไร ดังนั้น ผลลัพธ์ของการศึกษาช่วยยืนยันและให้ข้อเสนอแนะเกี่ยวกับปัจจัยความสำเร็จที่ควรมุ่งเน้นของกิจการ ได้แก่ วิทยาลัยนระยะยาวและการปฏิบัติงานบัญชีเชิงรุก เพื่อให้บรรลุประสิทธิภาพการดำเนินงานของการบัญชีต้นทุนเพื่อการจัดการคุณภาพเชิงกลยุทธ์ นอกจากนี้ผลการศึกษาี้ยังสามารถใช้เป็นแนวทางของงานวิจัยในอนาคต

## Introduction

Business strategy scholars have long recorded the importance of establishing a competitive advantage in quality. Strategic quality management (QM) initiatives offer one approach that manufacturing firms use to improve performance (Garstenauer, Blackburn and Olson, 2014), because quality management (QM) is a management function that ensures quality of products and services to meet customers' expectations (Chin-Keng, 2011). However, firms must take into account the costs related to achieving quality. Thus, executive's manufacturing firms need to have the most reliable tool for measurement and evaluation of efficiency and effectiveness of strategic quality management practices (Das, Paul and Swierczek, 2008).

The management accounting literature confirmed that quality costing as a strategic cost management tool has become a popular topic and important for measurement and evaluation of quality management practices from the past to present (Akenbor, 2014; Khataie and Bulgak, 2013; Omar and Murgan, 2014). However, although most firms are aware of the benefits of quality cost, only a few firms have been successfully operated in their firms. Many firms still lack of understanding about the implementation of quality costing amongst the management team and lack of adequate accounting processes necessary to implement a successful quality costing measurement system. The existing literature (Sedevich-Fons, 2012; Schiffauerova and Thompson, 2006) confirms that the integration of quality cost and accounting practices in a practice of practitioners and systems also increase the difficulty of managing the change process.

According to the research above, it is widely accepted that one of the problems is how to set and implement cost accounting for supporting QM of each organization. The difficulty depends on a firm characteristics and the environment of business context. Thus, the key question of this study is as follows: How does success factors have an influence on achieving effective implementation of strategic quality management costing?

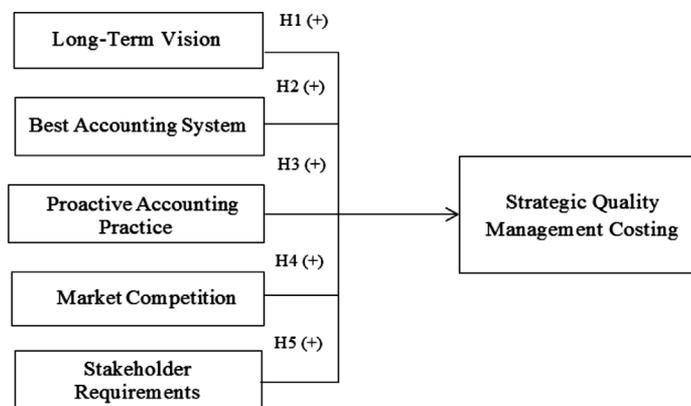
This study is outlined as follows. The first section presents the relevant literature concerning the trends of key contextual factors on the strategic quality management costing (SQMC) which provides the model and purpose for a set of research hypotheses. The second section presents the methodology and results. Consequently, conclusion, contribution, and future research directions are presented.

## Theoretical Framework

This study attempts to investigate the success factors on strategic quality management costing by employing the contingency theory to explain the conceptual model. Contingency theory suggests that the appropriateness of the management tools needs to consider both the internal and external factors. Some previous studies pointed that the contingency theory was recommended in the examination of strategy management accounting (Cinquini and Tenucci, 2010) and that of management accounting practices in the context of manufacturing companies (Alleyne and Weekes, 2011). Furthermore, organizational structure, changes in competition as well as technology are considered important for management accounting (Baldvinsdottir, Mitchell and Nørreklit, 2010). All in all, the contingency theory is believed to be appropriate for explaining the conceptual model of the current study.

## Literature Review and Research Hypotheses

This study investigates the influences of success factors on strategic quality management costing. Based on the contingency theory and the preceding discussion of the literature, this study aims to propose the five success factors which have been considered most appropriate—i.e. long-term vision, best accounting system, proactive accounting practice, market competition, and stakeholder requirements, as shown in Figure 1 below.



**Figure 1.** Conceptual Model of Success Factors on Strategic Quality Management Costing

### **Strategic Quality Management Costing (SQMC)**

In order to evaluate the performance of quality management practices, an organization needs to collect and report a wide variety of the quality-related information of the internal operations because quality-related information can be used to ensure the process capability which is known to meet the production requirement. The costs of quality information are an indicator of improved design quality, and conformance quality can be expressed in terms of value, where the benefits of the improvement include product quality, customer acceptance, and reduction of failure costs overall quality activity. In this study, the strategic quality management costing (SQMC) refers to the firm's capability to provide quality-related cost information for planning, controlling, and evaluates the effectiveness of product quality, service quality, and operational processes of the firm (Akenbor, 2014; Khataie and Bulgak, 2013; Omar and Murgan, 2014).

### **Long-Term Vision (LT)**

The first success factor is long-term vision, which is about a desirable future. The purpose of the visionary process is to transform an organization into a new, desired future state (Kantabutra, 2009; Kantabutra and Avery, 2007). Further, the essential use of vision for organizations is that it leads to methods for attaining goals and objectives (Ozmen and Sumer, 2011). Empirically, the work of Komala (2012) suggests that the long-term vision of managers has positive influences on strategic managerial accounting capability. Thus, it could be concluded that vision is a future image of an organization and a firm should focus on the long-term perspective to guide the organization far into the future.

In this study, long-term vision refers to the goals and direction of the firm for managing activities to achieve the future objective which reveals clear conception through policies, regulations, and principles (Ozmen and Sumer, 2011). From the above mentioned relationship, it can be the hypothesis 1 as follows:

*Hypothesis 1: Long-term vision will have a positive influence on strategic quality management costing.*

### **Best Accounting System (BA)**

The second success factor is the best accounting system, which is referred to as a suitable accounting system. This helps to process methods, procedures and controls information to record, classify, analyze, summarize and interpret information (Zhang and Zhou, 2007). Further, the best accounting system activity provides guidance, recommendations, and value-added supports in order to help decision making. In addition, there is evidence indicating that the best accounting system can influence product cost accuracy, effective cost control, cost information credibility and cost reporting

usefulness (Rollins, Bellenger and Johnston, 2012; Williams and Seaman, 2002).

The contingency theory is concerned about the systems that have been appropriately designed within the organization. In this study, the best accounting system refers to collecting, classifying and reporting financial data by designed, continuous development and improvement to obtain quality information (Feng and Li, 2009; Zhang and Zhou, 2007). From the above mentioned relationship, it can be the hypothesis 2 as follows:

*Hypothesis 2: Best accounting system will have a positive influence on strategic quality management costing.*

#### **Proactive Accounting Practice (PA)**

The third success factor is proactive accounting practice, which is referred to as the accounting process to collect, transform, process, report, and disseminate reports to users (Hakansson and Lind, 2004). Empirically, an advanced accounting practice is not only limited to a provision of the financial report but also support information for corporate strategy (Andersson, Haslam and Tsitsianis, 2008). Shea and Kleinsorge (1994) confirmed that the accountants' analysis of alternative propositions can support better identification of cost reduction opportunities in manufacturing firms. Based on contingency theory, it is suggested that firms should analyze the situations, both internal and external, of firms.

In this study, proactive accounting practice refers to the accounting functions to provide the accurate and reliable financial information and non-financial information aiming to reflect the transaction data and performance of the firm for managements and stakeholders in order for forward-looking and opportunity-seeking (Andersson et al., 2008; Howieson, 2003). From the above mentioned relationship, it can be the hypothesis 3 as follows:

*Hypothesis 3: Proactive accounting practice will have a positive influence on strategic quality management costing.*

#### **Market Competition (MC)**

The fourth success factor is market competition. The economy deregulation, privatization of government-owned enterprises, application of advanced production technology and the business environment around the world will be increasingly competitive (Mackelprang and Nair, 2010). Thus, in order to increase competitiveness, the firm should improve the allocation of resources by focusing on value creation for customers. Because of the intensity of the competitive environment, the firm has to make product quality which is influential on product cost management (Baines and Langfield, 2003).

The contingency theory explains that each organization's operating environment comprises a set of factors, and market competition is one such factor (Abdel-Kader and Luther, 2008). In this study, market competition refers to the degree of facing, increasing competitors in the same industry, changing of technology, customer requirements, a variety of products to influence firm performance which increases difficulty in business operations (Jirawuttinunt and Ussahawanitchakit, 2011; Zhou, Brown, Dev and Agarwal, 2007). From the above mentioned relationship, it can be the hypothesis 4 as follows:

*Hypothesis 4: Market competition will have a positive influence on strategic quality management costing.*

#### **Stakeholder Requirement (SR)**

The final success factor is stakeholder requirement. It is seen as an interested party that has both the means of bringing requirements to attention and the means for taking actions if their requirements are not met (Foley, 2005). Stakeholders were used for creating a new model that contributes to the improvement of the corporate information quality by providing information through increasing the intelligibility of information content. As a result, many stakeholders are increasingly interested in the strategic cost management performance of an organization (Laud and Schepers, 2009).

The contingency theory suggests that the firm's achievement depends on the potential of controlling different stakeholders who have different influences on the firm (Ittner and Larcker, 2001). In this study, stakeholder requirements refer to the degree of an expectation, demands, and regulations of a customer, regulators, public, and society in which they have pressure in the operations of a firm both direct and indirect (Foley, 2005; Lee and Hutchison, 2005). From the above mentioned relationship, it can be the hypothesis 5 as follows:

*Hypothesis 1: Stakeholder requirements will have a positive influence on strategic quality management costing.*

## **Methodology**

### **Sample selection**

The population of this study is ISO 9000 certified manufacturing firms in Thailand. These firms have registered with the Thai Industrial Standards Institute (TISI) of the Ministry of Industry in Thailand. ISO 9000 Manufacturing firms in Thailand are interesting to be investigated for three reasons. Firstly, the Thai manufacturing firms play an important role in a substantial growth in the last three decades and have established itself as the biggest income earner for the country (Das and

Joshi, 2011). Secondly, competition pressure in the global market requires Thai manufacturing firms to improve the standards of quality management (Jayaram, Choon and Laosirihongthong, 2014). Finally, these firms focus on bringing the quality of cost reports that come into use within the organization for measuring their overall performance.

The selected 1,088 manufacturing firms were used as the data. According to Yamane (1973), the required sample size for this study was 292 firms (a population is 95% confidence level), which are believed to be the representative of the ISO 9000 manufacturing firms. In this study, it has always been aware that the required response rate of this study is at 20%, which means that the study needs 1,460 mail surveys. Nevertheless, given that there were only 1,088 ISO 9000 manufacturing firms in Thailand, it is therefore reasonable to regard the 1,088 population as the most appropriate sample size for this study. For the survey, this study utilized a database available in the website: <http://www.tisi.go.th/>, as of April 1, 2016.

### **Data Collection**

This study was conducted by using the questionnaire surveys during June 15, 2016 to November 30, 2016. The key informant used in this study is the accounting executive of each ISO 9000 manufacturing firm. There are three reasons for choosing an accounting executive. Firstly, accounting executives are considered most likely to understand the cost accounting and is assumed to be the key person responsible for implementation of cost. Secondly, accounting executives are found to be supporting a variety of departments including the production, marketing and sales department (Sharma, Jones and Ratnatunga, 2006) and closely working within the accounting department with overall objectives of being able to add value to the business. Finally, accounting executives are the ones to report, coordinate, and deal directly with the chief executive officer in management on matters such as strategic policy, planning, and controlling activities of a firm.

The questionnaire consists of seven parts. Part one asks about the demographic data of each accounting executive such as the gender, age, marital status, educational level, working experience, average revenues per month, and working position. Part two asks about the information and details of the firms such as the type of business, industrial category, operational capital of the firm, total assets of the firm, the number of employees, the period of time in operating the business, the period of time registered in in ISO 9000 certificate, and average revenues per year. Parts three to six request to measure each of the constructs in the conceptual model. These items are adapted from previous related literature and are created from the definition of each variable. It is designed as a five-point Likert scale, ranging from 1 (strongly disagree) to 5 (strongly agree). The last part is the recommendations

and suggestions about strategic quality management costing and firm sustainability of ISO 9000 manufacturing firms in Thailand.

The procedures of the research tools' development and assessment are as follows: 1) review the concepts, theories and research related to the critical success factors in the application SQMC, 2) create a variable definition for measuring each construct in the conceptual model, 3) bring vocabulary definitions into the questionnaire which was then evaluated by two professionals in academic research in terms of content validity and face validity, and 4) pre-test the questionnaire with 30 non-sample populations for reliability and validity test.

**Table 1.** Results of Measure Validation

Constructs	Factor Loadings	Cronbach's Alpha
Strategic Quality Management Costing (SQMC)	.800-.960	.960
Long-Term Vision (LT)	.710-.930	.886
Best Accounting System (BA)	.560-.950	.844
Proactive Accounting Practice (PA)	.860-.964	.864
Market Competition (MC)	.580-.860	.816
Stakeholder Requirements (SR)	.710-.920	.865

### Reliability and validity

The factor analysis was used to investigate the underlying relationships of a large number of items. The factor analyses conducted were done separately for each set of the items representing a particular scale due to limited observations. In this study the exploratory factor analysis (EFA) which is used to test the construct validity of the new scale.

This study also utilized the confirmatory factor analysis (CFA) to test the construct validity of the revised scale which is analyzed by structure equation modeling. The result of the CFA shows the fit index of five factors: LT is  $p=0.310$ ,  $(\chi^2)/df = 0.155$ , RMSEA = 0.076, GFI = 0.961, CFI = 0.995, AGFI=0.806; BA is  $p=0.677$ ,  $(\chi^2)/df = 0.338$ , RMSEA = 0.000, GFI=0.987, CFI = 1.000, AGFI=0.934; MC is  $p= 0.215$ ,  $(\chi^2)/df = 0.107$ , RMSEA = 0.136, GFI = 0.950, CFI = 0.974, AGFI = 0.748. SR is  $p=0.593$ ,  $(\chi^2)/df=0.296$ ,  $p=$  RMSEA = 0.000, GFI=0.982, CFI= 1.000, AGFI=0.912; SMC is  $p=0.145$ ,  $(\chi^2)/df = 0.029$ , RMSEA = 0.148, GFI = 0.898, CFI = 0.976, AGFI = 0.696. These results provide the evidence that the fit index of all five factors is acceptable (Hair, Black, Babin and Anderson, 2010; Kline, 2005).

Table 1 above shows all variables that have factor loading scores between 0.560-0.964. All factor loadings are greater than the 0.40 cut-off (Nunnally and Berstein, 1994). Thus, the result indicates that there is the validity construct. Furthermore, the reliability of the measurements was evaluated by Cronbach's Alpha coefficients as presented in Table 1 above from 0.816 to 0.960 which are greater than 0.70 (Hair, Black, Babin, Anderson and Tatham, 2006). Thus, the scales of all measures appear to produce internally consistent results. In sum, the reliability and validity of all variables is acceptable.

The survey was completed and all returned 195 questionnaires were usable. In order to protect the possible bias between respondents and non-respondents, a test to compare the mean of all variable between early respondents and last respondents are conducted corresponding to the test for non-respondents bias with reference to Armstrong and Overton (1977). The result shows that the statistics are not significant between early and late responses. It is therefore suggested that there is no data non-possible in bias (see Appendix).

### **Variables and measurements**

#### **Dependent variable**

*Strategic quality management costing (SQMC)* is measured by the firm's capability to provide the quality cost information regarding quality management activities which include product quality development, customer learning, defect prevention, continuous improvement, and value chain creativity for managers to be useful in planning, controlling, and evaluating the efficiency and effectiveness of quality management systems. This construct is developed from the related literature and its definition including twenty items.

#### **Independent variables**

*Long-term vision (LT)* is measured by the future goal of the organization which is clearly in the concrete policy stated in the operational policy, determining the indicators of success in the future, future planning for personnel development, investing in technology and innovation. This construct is measured using a four-item scale revised from Kittikuncotiwut and Peenanee (2013).

*Best Accounting System (BA)* is measured by the ability of the organization in accounting procedures and the quality of accounting information including the efficiency of the application of this technology, continuous improvement, and coordination between accounting systems and organization management systems. This construct is measured using a four-item scale revised from Chaikambang, Ussahawanitchakit and Boonlua (2012).

*Proactive accounting practice (PA)* is measured by the ability of organization to record, gather data, and produce accounting reports that reflect the financial and non-financial information of the

organization both present and future including market analysis, customers, competitors, and other kinds of information essential for forward-looking and opportunity-seeking to achieve goals. This construct is developed as a new scale including four items.

*Market competition (MC)* is measured by respondents' perceptions of increasing difficulty in business operations, including new competitors, risk factors of the business environment, technological change, high expectations of customers. This construct is measured using a four-item scale revised from Ussahawanitchakit (2008).

*Stakeholder requirement (SR)* is measured by respondents' perceptions of a pressure of public's expectation, customer's demand, regulators and corporate social responsibility. They are believed to have influences on the organization operation. This construct is measured using a four-item scale revised from Waroonkun and Ussahawanitchakit (2011).

### **Control variables**

*Firm age (FA)* is defined as the period of time in operating business. Firm age is significantly associated with cost management because different firm ages may present different organizational attributes and resource deployment (Chen and Huang, 2009).

In this study, firm age is represented by dummy variables including 0 (15 years or less than) and 1 (more than 15 years) which were adopted from Prempre and Ussahawanitchakit (2013) and Sopida, Ussahawanitchakit and Boonlua (2012).

*Firm size (FS)* is defined as the number of employees currently registered full-time in firms (Delmotte and Sel, 2008; Nakata, Zhu, and Izberk-Bilgin, 2011). Firm size is an important factor in the implementations of cost accounting practices because large organizations have sufficient resources for approaching new knowledge and modern practices in cost information to the firm (Joshi, 2001). In this study, firm size is represented by dummy variables including 0 (150 employees or less than) and 1 (more than 150 employees). The criteria for dividing the proportion were based on the statistical data from the surveys of all firms which have the number of employees more than 150 persons (45.64%). Hence, statistically, the number of 45.64% can be regarded as equal to 50% or half of the sample size.

### **Statistical techniques**

Multiple regression analysis is employed to analyze the relationship between a dependent variable and independent variables. The regression analysis is a linear combination of the independent variables that is the best for explaining and predicting the dependent variables (Aulakh, Kotabe and Teegen, 2000). In this case, the factor scores are selected for analyzing the multiple regression analysis. The factor scores are important because it is independent being able to reduce the multicollinearity

problems. Also, the procedure of factor scores is used to the principle component analysis which is used to extract a minimum number of factors that explain the maximum percentage of variation and varimax of orthogonal factor rotation methods focusing on simplifying the columns in factor matrix. This study employs the Ordinary Least Squares (OLS) regression analysis to test all hypotheses in accordance with the conceptual model. As a result, the hypotheses in this study are transformed into equations model of the relationships which is depicted as follows:

$$\text{Equation 1: } SQMC = \alpha_1 + \beta_1 LT + \beta_2 BA + \beta_3 PA + \beta_4 MC + \beta_5 SR + \beta_6 FA + \beta_7 FS + \epsilon$$

## Results and discussion

The demographic characteristics of 195 key informants who returned questionnaires are as follows. The most respondent participants are female (77.95%). The age is between 41 to 50 years old (48.21%). The position of the key informant is an accounting manager (58.46%). In addition, the demographic of firm characteristics data shows that business owner types of sampled firms are mostly companies (96.41%). Under the industrial category, the category of others shows the highest percentage (26.68%). The operational capital of firm is more than 15,000,000 baht (42.05%); the total assets of the firm is more than 150,000,000 baht (48.21%); the number of employees is more than 150 persons (45.64%); and the period of time in operating business is more than 15 years (58.46%).

**Table 2.** Descriptive statistics and correlation matrix of success factors and strategic quality management costing

Variables	LT	BA	PA	MC	SR	SQMC	FA	FS
Mean	4.19	4.24	4.19	4.33	4.32	4.20	n/a	n/a
S.D.	0.54	0.57	0.56	0.52	0.50	0.46	n/a	n/a
LT	1							
BA	.672***	1						
PA	.675***	.823***	1					
MC	.557***	.570***	.611***	1				
SR	.653***	.600***	.644***	.762***	1			
SQMC	.685***	.603***	.647***	.473***	.558***	1		
FA	.098	.089	.101	.021	.101	.027	1	
FS	.109	.108	.084	.119	.149**	-.018	.229***	1

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

Table 2 showed that the descriptive statistics are used to describe the general characteristics of the data, including mean and standard deviation. The results show that the mean range 4.19 – 4.33 and the standard deviation range 0.46 - 0.57. The correlation between independent variables, Pearson correlation analysis ranged from 0.473 to 0.823 which is less than 0.9 (Hair et al., 2010). Thus, the multicollinearity problems are not a concern for this analysis. Moreover, in this study, the result indicates that the range of Dubin-Watson statistics is 1.687-2.016, which indicates that there is no multicollinearity problem. The Durbin-Watson statistic does not exceed 2.5 no autocorrelation (Tabachnick and Fidell, 2000).

Table 3 represents the results of hierarchical regression analysis of the relationships among success factors and strategic quality management costing. The test variance inflation factors (VIFs) are used to test intercorrelations between variables. The maximum value of VIFs is 3.660, well below the cut-off value of 10 (Hair et al., 2010) meaning that each variable is not correlated with each other. The evidence indicates that two success factors, including long-term vision and proactive accounting practice (Hypotheses 1 and 3), have significant positive effects on strategic quality management costing.

**Table 3.** Results of regression analysis for the influence of success factors on strategic quality management costing

Independent Variables	Dependent Variable
	Strategic quality management costing
Long-Term Vision (LT)	.414*** (.074)
Best Accounting System (BA)	.061 (.090)
Proactive Accounting Practice (PA)	.275*** (.094)
Market Competition (MC)	-.044 (.079)
Stakeholder Requirements (SR)	.126 (.089)

**Table 3.** Results of regression analysis for the influence of success factors on strategic quality management costing

Independent Variables	Dependent Variable
	Strategic quality management costing
<b>Control Variables :</b>	
Firm Age (FA)	-0.096 (.134)
Firm Size (FS)	<b>-.218*</b> (.114)
Adjusted R <sup>2</sup>	.549
Maximum VIF	3.660

\*\*\*p <.01, \*p <.10, Beta coefficients with standard error in parenthesis

The analysis revealed that long-term vision support has a significant and positive effect on strategic quality management costing ( $\beta_{01} = .414, p <.01$ ). This is similar to prior evidence, the study of Revilla and Rodriguez (2011) describes a vision in terms of something that helps clarify the direction toward product development. Likewise, vision positively influences the outcomes of the organization such as motivating employees to work hard, a commitment of the organization, and corporate reputation (Fanelli, Misangyi and Tosi, 2009). In addition, as in all manufacturing companies, it is also necessary to establish long-term cooperative relationships with suppliers, for supplier quality management (Saraph, Benson and Schroeder, 1989). In the existing management accounting literature, it is in accordance with Komala (2012) top management long-term vision positively influences strategic managerial accounting capability. Furthermore, Foster and Akdere (2007) indicated that long-term vision is related to strategic management such as in strategic cost management. Thus, **Hypothesis 1 is supported.**

Further, the analysis revealed that proactive accounting practice has a significant and positive effect on strategic quality management costing ( $\beta_{03} = .275, p <.01$ ). This is similar to prior evidence that is the study of Hughes and Morgan (2007) supports that proactiveness provides a forward-looking perspective in which the firm seeks opportunities to improve products and marketing performance. In the existing management accounting literature, the shift in accounting practices toward focusing

on the presentation of both financial and non-financial information presents the impacts of quality improvement, cycle-time reduction, and waste elimination (Easton and Jarrell, 1998).

Moreover, the management accounting changes and finds that accountants are focused more on the “proactive” accountants who became a part of the management team in the business process (Burns and Scapens, 2000). Moreover, Cloud (2000) suggests that accounting practices focus on an information report on the potential and ability of markets, customers, and competitors who help support operating to supply chain management. This study describes that proactive accounting practice appears to have greater strategic quality management costing. Thus, **Hypothesis 3 is supported.**

Nevertheless, the analysis revealed the best accounting system ( $\beta_{02} = .061, p > .10$ ). This result is similar to some prior evidence. That is to say, although the best accounting system can generate accounting information, it may have insufficient influences on the dimension of cost quality management. Sedevich-Fons (2012) suggested that the accounting systems’ missions may provide lack different kinds of users with quality cost information to make decisions. More specifically, the study realized by Yasin, Bayes and Czuchry (2005) reported that an accounting system generates error in the calculation of quality costs due to the accounting system being a closed system which has no interactions with the external factors, such as suppliers and customers. Thus, **Hypothesis 2 is not supported.**

For market competition ( $\beta_{04} = -.044, p > .10$ ), this result is in accordance with the previous research, Mahapatra and Narasimha (2012), confirming that the influence of competition intensity does not lead to higher investment, development of higher supplier, or relational orientation. This is due to the fact that the firm can monitor the environment both internal and external of the organization. Moreover, large companies usually have long-term planning, operational support, or prevent situations where market reversal is higher. Similarly, the work of Laonamtha and Ussahawanitchakit (2012) founded that market competition does not affect the cost accounting modern strategy in manufacturing firms. **Thus, Hypothesis 4 is not supported.**

Lastly, stakeholder requirements ( $\beta_{05} = .126, p > .10$ ) have no significant effects on strategic quality management costing. This was supported by Laonamtha and Ussahawanitchakit (2012) who indicated that changes in the environment, economy, and society, do not affect cost management modern. In the existing literature, Buysse and Verbeke (2003) propose that the importance of stakeholders is depending on period and industry. For this reason, the demands of stakeholders on several levels may not have sufficient influences on the strategic operation of the business, and it also depends on situation of the firm (Ittner and Larcker, 2001). The study realized by Eiadat et al.

(2008) assumed that the pressure of stakeholders' influences can impact management decisions on the corporate strategy of the company. This evidence, underlined that stakeholder requirements can have influence on corporate strategy but does not influence the functional strategy, which in this case means SQMC. Thus, **Hypothesis 5 is not supported.**

For the control variable, surprisingly, the results indicate that firm age has significant negative relationships with strategic quality management costing ( $\beta_{07} = -.218, p < .10$ ). This means that a firm having more than 150 employees has less ability in strategic quality management costing. It can be claimed that the communication between numerous employees and complex structures of a firm often lacks flexibility, resulting in difficulties in setting a policy, monitoring, and evaluating the strategic quality management costing.

Empirical research has shown that although most people want to understand the facets of operational function change within the organization, but leaders sometimes fail to communicate the necessary information (Wagner and Johnson, 2004). Lorence and Jameson (2003) indicate that the large organizations and complex structures influence the perceptions of the employees. Therefore, it is recommended that every organization have information for decision systems as the information is a key area of both strategic and operational management. Moreover, readiness of employees for change is a prerequisite to the implementation of a quality system (McNabb and Sepic, 1995).

### **Summary of findings**

The results indicate that the long-term vision and proactive accounting practice have a significant positive influence on strategic quality management costing. Nevertheless, best accounting system, market competition, and stakeholder requirements have no significant effects on strategic quality management costing. In sum, hypotheses 1 and 3 are supported but hypotheses 2, 4 and 5 are not supported. Therefore, this study can explain the new knowledge about the success factors which have had influence on the strategic quality management costing in the context of manufacturing firms in Thailand.

### **Theoretical and future research directions**

This study proposes an empirically test following the contingency theory framework. The results provide unique theoretical contributions expanding previous knowledge and literature. This study also proposes both revised and developed new constructs that is proactive accounting practice which reflects the latent theoretical construct in those items they are designed to measure different

from prior research. The current study was systematically developed and factor analysis tested. Thus, future research may use this constructs to apply in research area of management accounting. Moreover, the results indicate that one of the internal factors, best accounting system, has no significant effect on SQMC. Thus, future research may seek a potential moderator variable of strategic quality management costing relationships.

The results also indicate that external factors-market competition and stakeholder requirements - have no significant effect on SQMC. However, under scope of the population is manufacturing firms, which focus on quality management in terms of cost of production, under the conditions of time periods of data collection in the industrial environment and economy of Thailand. Thus, there remains for future research to explore the impact of contextual factors on industry differences, for example, service industries which they have business model focusing on quality management of costs of service.

### **Managerial contributions**

A firm's executive of manufacturing firms should be aware of the importance of long-term vision. In practices, the executives ought to establish the mission, policy, commitment and set clear targets about creating effective implementation of strategic quality management costing. For instance, the executives should prioritize the right focus operation for an accountant development, plan for continuous investments in technology and new innovations which will help foresee a direction for a successful operation. In addition, an accounting executive of manufacturing firms should encourage an accountant to attend trainings continuously concerning the issues of marketing, customers, and competitors. Doing so will help accounting practices be able to coordinate with overall operation of organization to support QM more effectively.

### **Limitations**

The study contains limitations that the intended participants of this study are accounting executives. However, according to the data collection stage, it happened that the number of the accounting executives who responded the survey was 38.46% of the total 195 returned completed questionnaire. Another limitation is that the Thailand Institute of Industry Standard lacks of updated information about the status of ISO 9000 manufacturing firms.

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## Appendix

**Table 4.** Results of Non-response bias tests

<b>Comparison</b>	<b>n</b>	<b>Mean</b>	<b>S.D.</b>	<b>t</b>	<b>p-value</b>
<b>Operation capital of the firm</b>					
- First Group	98	2.85	1.152	-0.949	0.344
- Second Group	97	3.00	1.099		
<b>Total assets of the firm</b>					
- First Group	98	3.00	1.158	-0.522	0.603
- Second Group	97	3.08	1.048		
<b>Number of employees</b>					
- First Group	98	2.99	1.089	-1.121	0.264
- Second Group	97	3.15	0.961		
<b>The period of time in operating business</b>					
- First Group	98	3.37	0.866	-0.291	0.772
- Second Group	97	3.40	0.799		

Source: from calculation

