STRATEGIC QUALITY MANAGEMENT COSTING AND FIRM SUSTAINABILITY: AN EMPIRICAL INVESTIGATION OF ISO 9000 MANUFACTURING FIRMS IN THAILAND

ANUCHA PUTTIKUNSAKON

A dissertation submitted in partial fulfillment of the requirements for the degree of Doctor of Philosophy in Accounting at Mahasarakham University

May 2017

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ABSTRACT

During the past decade, it is widely recognized that strategic quality management (SQM) as the key strategy of world-class manufacturing and the key factors for success in the global market. However, in the existing literature confirmed that building a true quality management system in practice within a firm remains difficult for most manufacturing firms. Interestingly, several quality gurus considered that a quality costing system is a tool as an important role in achieving to SQM. Thus, the main purpose of this research is to examine strategic quality management costing (SQMC) and its effect on customer acceptance, organizational excellence, market reliability, goal achievement, and firm sustainability. Moreover, this research tests the impact of antecedents on SQMC. Furthermore, the moderating role of accounting learning is also investigated. The resource-based views and the contingency theory are concepts to back up the relationships of the conceptual model in this research.

The ISO 9000 manufacturing firms in Thailand were selected as a sample. The unit of analysis is an organization, and an accounting executive is chosen as the key informant. A mail survey was used to collect the data. Multiple regression analysis with the Ordinary Least Squares technique was employed for the hypotheses testing.
The results reveal that value chain creativity budget has a significant positive effect on customer acceptance, organizational excellence, market reliability, goal achievement and firm sustainability. Then, continuous organizational improvement investment has a significant positive effect on customer acceptance, organizational excellence, and market reliability. Further, product functional development expenditure has a significant

positive effect on organizational excellence and market reliability. Also, dynamic customer learning cost has a significant positive effect on goal achievement. In addition, organizational excellence and market reliability has a significant positive effect on goal achievement. Moreover, goal achievement has a significant positive effect on firm sustainability. However, only defect prevention risk expenditure is not significant positive relation with SQMC's consequence.

In respect to the influences of the antecedents, this research found that long-term vision has a significant positive influence on all dimensions of strategic quality management costing. Further, proactive accounting practice has a significant positive influence on defect prevention risk expenditure, continuous organizational improvement investment and value chain creativity budget. Likewise, stakeholder requirement has a significant positive influence on defect prevention risk expenditure and chain creativity budget. Lastly, for the moderating effect, accounting learning has a significant positive influence on the relationships among market competition and defect prevention risk expenditure.

This research expands the theoretical contributions to earlier literature that improves acknowledge of the resource-based views and the contingency theory are an influence as the conceptual model of SQMC. For the managerial contribution that the advantages of core quality management practice a firm should contain the potential of quality cost implementation because it can help to achieve better performance. Future research should study other industries or compare between manufacturing with service firms to broaden the perspective of the research. Moreover, future research should collect data from multi- key informants such as, accounting director, market director, and production directorwhich may be complete analysis by using a data both provider and user associate with quality cost information.

TABLE OF CONTENTS

Chapter **Page**

Chapter **Page**

LIST OF TABLES

Table **Page**

LIST OF FIGURE

Figure **Page**

CHAPTER I

INTRODUCTION

Overview

Competitive pressures facing organizations in today's business environment, and an information-intensive world lead to difficulties in driving corporate sustainability. Nowadays, it is recognized that Thailand is facing a significant crisis and a heavy type that has never been in the history of that competitiveness industry. Thailand in the world market has dropped alarmingly.The World Economic Forum (WEF) has published a report on competitiveness of countries amount 140 countries in the world for the year from 2015 to 2016 which Thailand ranked 32, down from 31countries in the comparison group of ASEAN. While, Singapore, Malaysia, Philippines, Vietnam, Laos, Cambodia and Myanmar are rankings increased. In addition, the report analyzes the value of exports of products of Thailand, December 2015 has value a negative 7.5 percent and then in April 2016 has value a negative 8.0 percent compared to the same period last year which downturn obviously reflects the competitiveness of the industry.

As aforementioned, these data indicate that there is the dangerous signal of competitiveness of the business Thailand. The Ministry of Commerce with the Ministry of Industry in Thailand concluded that on this point. Manufacturing industry sector has proportion the highest export value of Thailand. The problem of manufacturing firms is although the most manufacturing firms have a product's quality certified of international standard organization (ISO) but it is also not enough for the highly competitive today because competitors on the world can develop a higher level of quality more than standard and diversity. Furthermore, customers also understand this fact and they would not lose their rights themselves. A consequence is increased customer expectation for product function and design. Thus, approaches for development are the manufacturing firms of Thailand not only keep up the quality standards, but they must also shift the quality level of the product and service more than standard and customer expectation aims lead to a competitive advantage in quality.

Operations strategy scholars have long record the importance of establishing a competitive advantage in quality.The concept of “strategic quality management (SQM)” was identified from the first theoretical for applied research by the renowned world quality researchers Deming, Juran, Crosby, Feigenbaum, Ishikawa, Garvin etc.
At present SQM principles are also reflected in the base for applying for the Quality Awards and ISO 9000 requirements. Paraschivescu and Caprioara (2014) suggest that the new SQM is based on the quality of organization, planning, empowerment and broad commitment to complete customer satisfaction. These issues identify research to bring determination for a new support SQM practices element collaborative quality, creative quality, and strategic quality.

Therefore, executives of manufacturing firms must determine to use SQM as a tool in organization management, the need to formulate ideas, principles, and assumptions of the SQM practices are in line with their policy, vision, organizational structure, and business environment. However, the literature previously found that the big problem of organizations in the implement of SQM practices are an executive lack quality- related costs for evaluating the performance of SQM practices (Suthummanon and Sirivongpaisal, 2011). Generally, quality- related costs which are derived from cost of quality systemare divided into four groups (Ramudhin, Alzaman and Bulgak, 2008; Sower, Quarles and Broussard, 2007) which are prevention, appraisal (detection) costs, internal failure costs, external failure costs (PAF model).

Interestingly, prior research has investigated that the cost of quality (COQ) system has been significant quality performance in manufacturing firms (Cheah et al., 2011; Khataie and Bulgak, 2013; Omar and Murgan, 2014). In addition, COQ system is a tool that has passed the test and is confirmed as a true tool for improving the quality management in most all organizations and there are many studies accepting contribution of quality cost information which is the outcome of COQ system. Firstly, quality cost information helps managers see the financial significance of defects. Secondly, quality cost information helps managers identify the relative importance of quality problems faced by their companies. Third, quality cost information helps managers see whether their quality costs are poorly distributed (Arvaiova, Aspinwall and Walker, 2009; Setijono and Dahlgaard, 2008).

Although, COQ system will be extremely valuable that there are few empirical studies on cost of quality system problems. Lack of data or difficulties in collecting data, lack of cooperation from top management and lack of understanding of cost of quality system principles are common difficulties identified during the implementation of cost of quality system reporting (Bamford and Land, 2006; Chopra and Garg, 2011; Eldridge, Balubaid and Barber, 2006; Kanapathy and Rasamanie, 2011; Rodchua, 2009). Further, COQ implementation must suit the situation, environment, purpose and company needs in order to have a chance to become a successful systematic tool in a quality management program (Arabian et al., 2013). At this point, this research thereby aims to fill this gap. At this point, there are interesting issues of SQM and COQ system implementation.

This research is attempting to further propose the cost accounting strategy for fulfillment of necessity of problem. This research is presenting cost accounting for quality management that was developed under the name, "strategic quality management cost (SQMC)". This research determines the definition of SQMC which is the firm's capabilities to collect, classify, analyze, and report the quality cost information for the usefulness of measuring and evaluating the priority importance of quality problems and identifies major opportunities in order for cost reduction and improve quality management leading to firm sustainability. Based on the prior literature, these are integrated into the cores of SQM (Paraschivescu and Caprioara, 2014) and COQ system implementation (Chopra and Garg, 2011; Sedevich-Fons, 2012).

This research attempts to provide a deeper understanding of SQMC that is developed as a new perspective with five dimensions: 1) product function development expense, 2) dynamic customer learning cost, 3) defect prevention risk expenditure, 4) continuous organizational improvement investment, and 5) value chain creativity budget; thus there will be a new measurement and conceptual model for SQMC. This research investigates the effects of SQMC on consequences (customer acceptance, organizational excellence, market reliability, goal achievement, and firm sustainability). Finally, the outcomes from SQMC will enable organizations for goal achievement and firm sustainability. Moreover, this research also investigates the antecedents of SQMC, and various antecedent factors that affect SQMC: long-term vision, best accounting system, proactive accounting practice, market competition, and stakeholder requirements.

To complete the relationship, this research provides that accounting learning Is a moderator influences on the relationships of the conceptualization model base on internal and external factors. The theoretical contributions in this research has provided to the literature on SQMC that are proposed as follows. First, the results of the research can be used as guidelines for presenting resources arising from QM implementation. Second, the contingency theory integrated into SQMC is evidence that it supported the application according to various situations of users in an industry context. Finally, the two theories, namely, the resource-based view and contingency theory, are explained to support the relationships of the conceptual models in this research.

This research provides and creates the managerial contributions that are proposed as follows. First, it helps create an understanding of concepts, policies and methods of application in a COQ manufacturing firm context. Second, it manages information for executives related to the alternative on accounting practices most appropriate for pushing the SQM of the ISO 9000 manufacturing firm that has been achieved in firm sustainability. Third, the antecedents and consequences of SQMC are proposed by this research in different ways. Finally, the knowledge of those is involved in the promotion and development of manufacturing industries in Thailand to improve their QM implementation.

This research applies two theories; namely, the resource-based view (RBV) and the contingency theories which describe the phenomena and support the relationship of the overall constructs in the model. The RBV is an important theory explaining how firms achieve progress and sustainable competitive advantage (Freiling, 2004; Wernerfelt, 1984). Much empirical research on the resource-based view relates to the QM issue. Abdullah and Ahmad (2009) propose that the QM implementation in format ISO 9000 is best practices because a mechanism that is based on a set of knowledge has been set up. It is an intangible asset that can be used to add value to business compliance with the RBV concept of these resources, such as patents, trademarks, reputation, networking, and database.Thus, the RBV is applied to clarify the fact that strategic quality management costing is the crucial knowledge resource of the firm which supports quality management and leads to firm sustainability.

The contingency theory is applied to explain the phenomenon of the antecedent that is the internal and external factors in quality management. The attention of this

research is driven by the assumption that the COQ on core SQM practices need the support of quality management decisions that are influenced by the internal processes and environmental changes of Thai manufacturing firms. Thus,the contingency theory to describe the business environment and circumstances that the company faces, depends on the internal and external factors affecting the quality management operation of the business. The firm must take this into account when applying the strategies and operating methods aims to track the goal of enhancing sustainability of firm. From the reasons above, it is strongly reasonable to use a resource-based view and contingency theory to explain the features of SQMC dimension.

From the existing literature, there is little empirical research on SQMC in the contest of manufacturing firms in Thailand. Thus, in this research, the unit of analysis is based on the population that is ISO 9000 certified manufacturing firms in Thailand. There are three major reasons. Firstly, Thai manufacturing has had a substantial growth in the last three decades and has established itself as the biggest income earner for the country (Das, Paul and Swierczek, 2008). Further, manufacturing firms in Thailand as to quality improvement from the past to present, there is evidence from The Thailand Institute of Industry Standard reported that the number of ISO 9000 certified firms has increased dramatically since 1987 and during the 1990s, the main emphasis of Thailand's manufacturing industry was on implementing ISO 9000 standards. Secondly, manufacturing firms in Thailand has threats from business competition was concentrated. In addition, they have been tremendous pressure from stakeholders and society. Finally, the presence of many multinational companies in Thailand should increase Thai awareness of quality practices, implying that most SQM practices will be found in Thai industry. From the reasons above, it is strongly reasonable to investigate the SQMC on ISO 9000 certified manufacturing firms in Thailand.

The key participants of this research are the accounting executives of each ISO 9000 certified manufacturing firms in Thailand who have the most knowledge and have work experience into the dimension of SQMC. They can recognize the performance of the firm as well and understand antecedent factors.

Purpose of the Research

The main purpose of the research is to examine the effects of strategic quality management costing which are five dimensions (product function development expense, dynamic customer learning cost, defect prevention risk expenditure, continuous organizational improvement investment**,** and value chain creativity budget), and firm sustainability. The specific research purposes are as follows:

1. To investigate the effects of thedimension of strategic quality management costing on customer acceptance, organizational excellence, market reliability, goal achievement on firm sustainability,

2. To inquire the effects of customer acceptance, organizational excellence, and market reliability ongoal achievement,

3. To examine the effects of goal achievement on firm sustainability,

4. to explore the influence of long-term vision, best accounting system proactive accounting practice, market competition and stakeholder requirements on each dimension of strategic quality management costing, and

5. To analyze the relationship of long-term vision, best accounting system proactive accounting practice, market competition, and stakeholder requirements on strategic quality management costing via accounting learning as amoderator.

Research Questions

A main research question of this research is how strategic quality management costing (product function development expense, dynamic customer learning cost, defect prevention risk expenditure, continuous organizational improvement investment**,** and value chain creativity budget) has an effect on firm sustainability. Also, the specific research questions are presented as follows:

1. How does each dimension of strategic quality management costing affect customer acceptance, organizational excellence, market reliability, goal achievement and firm sustainability?

2. How do customer acceptance, excellence organizational, and market reliability affect goal achievement?

3. How does goal achievement affect firm sustainability?

4. How do long-term vision, best accounting system, proactive accounting practice, market competition, and stakeholder requirements have an influence oneach dimension of strategic quality management costing?

5. How does accounting learning moderate the relationships between long-term vision, best accounting system, proactive accounting practice, market competition, and stakeholder requirements, and each dimension of strategic quality management costing?

Scope of the Research

There are two theories explaining strategic quality management costing on firm sustainability in this research, namely, the RBV and contingency theories. The theories illustrate the relationships among dimensions of strategic quality management costing and its antecedents and consequences, as well as constructs presented in the next chapter. Moreover, this research proposes the interaction theory to describe relationships of each variable throughout, giving attention for examining and answering the research questions and objectives.

The RBV is an important theory explaining how a company successfully progresses and sustains competitive advantage (Freiling, 2004; Wernerfelt, 1984). RBV theorists explain the internal resources of firms as being able to combine for firm survival and sustainability to gain superior performance (Barney, 1991). Researchers have drawn on different theoretical perspectives to understand the relationship between quality and competitive advantage. For example, scholars have drawn on the RBV (Barney, 1991) of the firm to explain how a number of practices, and frameworks such as TQM (Flynn, Schroeder and Sakakibara, 1995; Powell, 1995), Baldrige (Flynn and Saladin, 2001) and ISO 9000 (Corbett, Sancho and Kirsch, 2005; Martínez et al., 2009; Naveh and Marcus, 2005) lead to a competitive advantage in quality. This strategic quality management costing is knowledge that is an important resource for goal achievement of the firm’s strategic business.

The contingency theory is a widely used perspective in understanding the strategy performance relationships. There is no one best way for strategies, and no strategic choices are universally beneficial in all conditions (Donaldson, 2000; Ginsberg and Venkatraman, 1985). The assumption of the contingency theory suggests that organizational structure is based on both internal and external factors. Internal factors relate to the characteristics of size and experience in the company's goals. External factors influence the dynamics of the competitive environment and economic uncertainty (Anderson and Lanen, 1999). For this reason, this contingency theory explains that the influences of internal and external constraints as antecedent variables (long-term vision, best accounting system, proactive accounting practice, market competitive, and stakeholder requirements) have impact on the decision-making of the level of strategic quality management costing.

This context draws a base from the resource-based view and the contingency theory, and proposes theory interaction to explain the relationships of each variable that concentrate on examination, and to answer the research questions and objectives. This study focuses on the effects of strategic quality management costing effectiveness on goal achievement in the context of the ISO 9000 manufacturing firm in Thailand. These products are concerned with customer quality, especially product differentiation, by launching new product designs and suitable prices with the quality which processes and focuses on cost accounting, considers the voice of the customer (Fu, 2007), involves concurrent engineering, utilizes cross-functional teams, and focuses on creating new products that are both desirable and affordable to the customer and profitable to the producing organization. The data collection employs questionnaire surveys as the main research instruments. The accounting executives of ISO 9000 manufacturing firms in Thailand are the key informants. The Ordinary Least Squares (OLS) regression analysis is processed to test all postulated hypotheses. With respect to the research objectives and research questions, there are many variables in the research.

In this research, strategic quality management costing (SQMC) is defined as the firm’s capabilities to collect, classify, analyze, and report the quality cost information for the usefulness of measuring and evaluating the priority importance of quality problems and identifies major opportunities in order to cost reduction and improving quality management lead to firm sustainability.

It presents a new perspective in strategic quality management costing which consists of five dimensions that are: product function development expense, dynamic customer learning cost, defect prevention risk expenditure, continuous organizational improvement investment, and value chain creativity budget. According to the literature, the consequences of strategic quality management costing are customer acceptance, excellence organizational, and market reliability.

Additionally, it also investigates the antecedents of SQMC and the various antecedent factors consisting of long-term vision, best accounting system, proactive accounting practice, market competition, and stakeholder requirements. In order to complete the relationship, this research is a moderator, which has accounting learning as that which influences the relationships of the conceptualization model, based on the literature review. Firm age and firm size are two constructs of control variables as dummy variables, which were used in this research.

Organization of the Dissertation

This research is organized into five chapters. Firstly, chapter one is a brief overview consisting of the motivation for the research, expected contribution, purposes of the research, research questions, scope of the research, and organization of the research. Then, chapter two illustrates the reviews of relevant literature on SQMC to provide a theoretical framework, describe the conceptual model and developed the hypotheses. Further, chapter three illustrates a research methodology which includes the sample selection, the data collection procedure, measurements, and statistical technique in hypothesis testing, and variable definitions. In additional, chapter four illustrates the results of the statistical analysis and discussion. Finally, chapter five details the conclusion, theoretical and practical contributions, limitations, and direction for further research.

CHAPTER II

LITERATURE REVIEWS AND CONCEPTUAL FRAMEWORK

The prior chapter described an overview situation of strategic quality management costing (SQMC) which contains information about the purpose of the research, the research questions, and scope of the research. This chapter is organized into three sections. The first section introduces theories that back up the conceptual model of the research. The theories applied in this research include the resource-based theory of the firm and contingency theory. In an earlier overview of the literature, the role of the antecedents and consequence of SQMC are drawn. The second section provides a literature review and hypotheses development, which is used to formalize the theoretical arguments on the relationships among the constructs in the conceptual model. The final section presents the summary of hypotheses relationships and their descriptions.

Theoretical Foundations

The literature review shows that theories help explain why some firms adopt the strategic quality management costing concept to succeed in goal achievement and it is intended to provide an understanding of the founding fields of the proposed conceptual framework. It provides empirical evidence regarding dimensions of strategic quality management costing, and investigates the direct relationship between the dimensions of SQMC and firm sustainability, and the relationships between the antecedents and consequences of strategic quality management costing.

This chapter is organized into two major sections. The first section introduces the theory that backs up the conceptual model in this research. The second describes the literature reviews of all constructs of the conceptual framework and the definition and previous studies on the subject of strategic quality management costing in the context of ISO 9000 certified manufacturing firms in Thailand. The final section presents the conceptual model and details of the hypotheses development.

Resource-Based View Theory (RBV)

The resource-based view has been a popular theoretical framework, an effective theory, and has received increasing attention by researchers. In applying the resource-based view, this research proposes strategic quality management costing as a strategic source of creating quality management and influencing manufacturing industries' performance. A previous researcher in the area of the resource-based view formed evidence that seems to be strong as a valuable resource linked to the goal achievement of a firm. For example, Toms (2010) proposed the resource-based view that the potential of the resources used to describe the competitiveness sustainability, and the development process deliver long-term returns to abnormal shareholders. Freiling (2004) has stated that the resource-based view can explain how a firm achieved progress and sustainable competitive advantage. Eisenhardt and Martin (2000) point out that the firm will focus on using its resources to describe how to build capacity to be competitive and sustainable. In addition, the researcher by Barney (1991) confirms that resource-based view theorists describe the internal resources of a firm as its ability to combine the firm's survival and sustainable development to achieve superior performance.

The resource-based view of the firm that can increase the competitiveness of their captured resources and capabilities are valuable, scarce and inimitable (Barney, 1991; Peteraf, 1993). Daft (1983) indicated that the resource-based view of the firm is the recognized theoretical framework for describing how organizations succeed. It must be recognized that the resource-based view is an important theory explaining how a firm achieves progress and sustainable competitive advantage. Furthermore, it can be claimed that the resource-based view is the theory that describes organizational management which focuses upon a valuable resource that is a key component in driving the organization towards the goal.

Previous research expanded the resource-based view to the extent that there are resources of a firm. Resources that are meaningful cover the scope of the firm and can include financial and physical assets, knowledge management, human capital, technology know-how, communication and knowledge-sharing operations, and the complexity of the organization's social networks, and relationships (Fayard et al., 2012; Holweg and Pil, 2008; Ireland, Hitt and Vaidyanath, 2002; Wade and Hulland, 2004). Similarly, Maijoor and Witteloostuijin (1996) identify that resources refer to tangibles and

intangibles assets, capability, information, process, finance, technology, knowledge, and human resources. Moreover, resources can build upon each other. For instance, they result in creating new resources that are more unique and potentially more valuable to organizations.

In addition, resources can lead to a competitive advantage, for the business must be valuable, scarce, inimitable, incomplete and have no equivalent substitute (Holweg and Pil, 2008; Wade and Hulland, 2004). However, the resource-based view for a resource not only existsbut also includes new resources that are more unique and more valuable to the firms. Those resources, through access to resources, include the monopoly power and difference in the product because it is a resource to competitors that is difficult to imitate (Toms, 2010).

As aforementioned, it could be concluded that resources may have a variety of formats, and several types. However, this research should be split into two categories based on the accounting concepts such as tangibles and intangible assets. In addition, resources also can be created from the unique features of the business and result in creating new resources that are more unique and more valuable to the organization. As a result, the firm has competitive advantages and sustainability. Therefore, this research assumes that quality practices implementation is a valuable resource of a firm, from the resource-based view perspective.

This research briefly describes strategic quality management costing, which is proposed to be one of the elements of core quality practices based on the quality management concept. The quality practices literature also supports this perspective; that is, all quality practices elements can be viewed as resources, namely, technological resources that are hard-quality practices, hard practices, and soft-quality practice elements that can be both organizational resources and human resources. This research considers the deep inner meaning of each dimension SQMC. Moreover, an integrated quality management concept, both abstract and substantial in the form of quality management practices is investigated. Therefore, this research, in the resource-based view perspective SQMC, is the valuable resource of firm. Thus, SQMC can be defined as “information, equipment, techniques and processes required to transform inputs into outputs in an organization” which is a valuable resource of firms.

Thus, it could be concluded that in the conceptual model of this research, one can apply the resource-based view theory in the context of strategic quality management costing to goal achievement and firm sustainability. For that reason strategic quality management costing is a quality practice by this research that assumes that a valuable resource of important executive tools is used to achieve quality management, which can explain the relationships in this conceptual model. It is used to explain the dimensions of strategic quality management costing, and consequence variables named as customer acceptance, organizational excellence, market reliability, and goal achievement.

Contingency Theory

The strategy is an operating plan that was set up for goals achievement. In other words, the way of the competition is to give organizations a competitive advantage. Traditionally, a set of guidelines to achieve the desired future must be based on the data side. This should consider the circumstances, the potential or capabilities of the organization and the changing environment including economic, political, social, and environmental. Previous research in the area of strategic management has been in the contingency theory that is broadenused in understanding the relationship of strategic choice perspective and performance. The contingency theory is an operations framework that the organization achieving depends on potential of controlling the uncontrollable factors and objectives of the firms (Ittner and Larcker, 2001). The contingency theory explained that no way one best to strategic for and non-strategic choices that will benefit the global level in all conditions (Donaldson, 2000; Ginsberg and Venkatraman, 1985).

The contingency theory assumption is that the organizational structure is based on both internal and external factors; the internal factor is associated with characteristics of a firm such as target, experience and size of the firm. The external factor is the influence on environment business changes such as in the competition intensity and economic instability (Anderson and Lanen, 1999). There are several explanations for this point. Research by Hambrick and Lei (1985) suggested that the fit of the control framework assignments has a variety and depend on setting of the businesses. In some cases, there are situations that need to set on a particular format by control framework can be prepared in accordance with significant level of business settings. For the companies to achieve a competitive advantage, companies must ensurethat their

strategic decisions are in harmony with contingency factors including external factors such as market conditions, and consumer behavior; and internal factors such as organizational structure, resources, and nature (Donaldson, 2000). As mentioned above, it can be claimed thatthe contingency theory is a theory to clearly explain thecauses and consequences of management strategies.

Definitely, the contingency theory is the principle that the organization has different characteristics and which is was faced with different situation and requires a different way of managing them. For this reason, this research assumes that the contingency theory declares that a firm's strategy, structure, and managerial process must fit together withstrategic quality management costing. Therefore, this research uses the contingency theory that is applied to explain the phenomenon of the antecedent which is the internal and external factors influencingstrategic quality management costing. Thus, this researchaims to link understand on application of the theory of this research. This suggestsa separated contingency theory to explain three sections as detailed below: a contingency theory in the area ofquality management, area accounting practices, and cost system, respectively.

First, a previous researcher in the area of the contingency theory explains quality management implementation and the manufacturing industry context. There are empirical studies suggesting that quality management depends on the context (Sousa and Voss, 2008; Foster, 2006), the optimum combination of utilization, and exploring operations that should also be based on context. Sousa and Voss (2008) showed a view that there is mistrust about the absoluteness of quality management practices on overall contexts. The work of Sousa and Voss (2008) demonstrated the inconsistencies of performance in quality management implementation, possibly because of the contextual factors. In addition, they also discover that much research on the collaborative context of the organization and quality management practices found that the choice of the quality management is based on manufacturing strategy. Foster (2006) argues that when a firm have to quality management implementation, it is required give priority and take a contingency theory perspective into consideration. Further, some empirical studies have considered thatquality management effectiveness has been influenced from the contextual factors such as country and firm size (Sila, 2007). These researched pointed out that the quality management implementation depends on contextual factors such as strategy, firm size and country.

Second, a previous researcher in the area of the contingency theory explains the sophistication of accounting practice that sets solutions and performance. The contingency theory has been popular in the theoretical framework of accounting research such as in management accounting, auditing, accounting information systems and managerial accounting (Cinquini and Tenucci, 2010). In some empirical studies, for instance, Alleyne and Weekes (2011) propose, a contingency framework concept to explain the phenomenon of managerial accounting practice. Tillema (2005) considers that the complexity of management accounting system because of contingency factors, are according to a contingency theory concept. Khandwalla (1972) investigated that major external factors have relationships at the firm level in management accounting and control research. In addition, Nicolaou (2000) uses contingency factors in the design of accounting information systems and confirmed accounting information system effectiveness. Given this evidence, it can be seen that the contingency theory can explain that accounting practice and confirms that a firm‘s environment is most important both internally and externally.

Finally, a previous researcher in the area of contingency theory explainsabout cost system setting and strategic business. Some empirical studies, for instance, that Of Chenhall (2003), has stated that improving performance is to determine the cost-system functionality and environmental performance of companies which meet the contingency theory concept. Haldma and Laats (2002) demonstrated that the application of appropriate cost management, choosing a strategy, and organizational structure as a consequence of intense competition. Daft and Lengel (1986) supported that cost management information is an action strategy that would be useful to enhance the ability for coordination and operations of the firm for the better. However, companies should not ignore the conditions that affect the ability of their organizations that use cost management information to make informed decisions. In addition, the effectiveness of cost management strategy depends on the ability to learn from the dynamics of the external and internal environment (Pavlatos and Paggios, 2009).

The evidence seems to be strong that cost system that can generate cost information quality to support decision-making need to take into account internal and external operational business.

Based on these rationales, it must be encouraging that this research implements the contingency theory to explain these antecedents which link constructsto greater strategic quality management costing. This is based on two factors: internal factors and external factors, affecting a determined use of quality practices of a firm. This is because firms will practice alternative method under the right circumstances. Thus, this research applies the contingency theory to explain theinfluence of internal factors, including long-term vision, best accounting system, and proactive accounting practice in external factors, including market competition and stakeholder requirements.

In summary, the two theories explain the phenomena in this research, namely, the resource-based view and contingency theory. The resource-based view (RBV) theory is applied to clarify the fact that SQMC is the tangible and intangible resource of the firm which creates an advantage over its competitors and leads to firm success. Also, the resource-based view is applied to explain the dimensions of the SQMC effects on firm sustainability viathe consequences. Meanwhile, the contingency theory can explain that quality cost information develops newer approaches to manage firm success. That is, it represents a unique and sustainable way in which the firm creates value. Further, the contingency theory is applied to explain the antecedents and moderator of SQMC as shown in Figure 1.

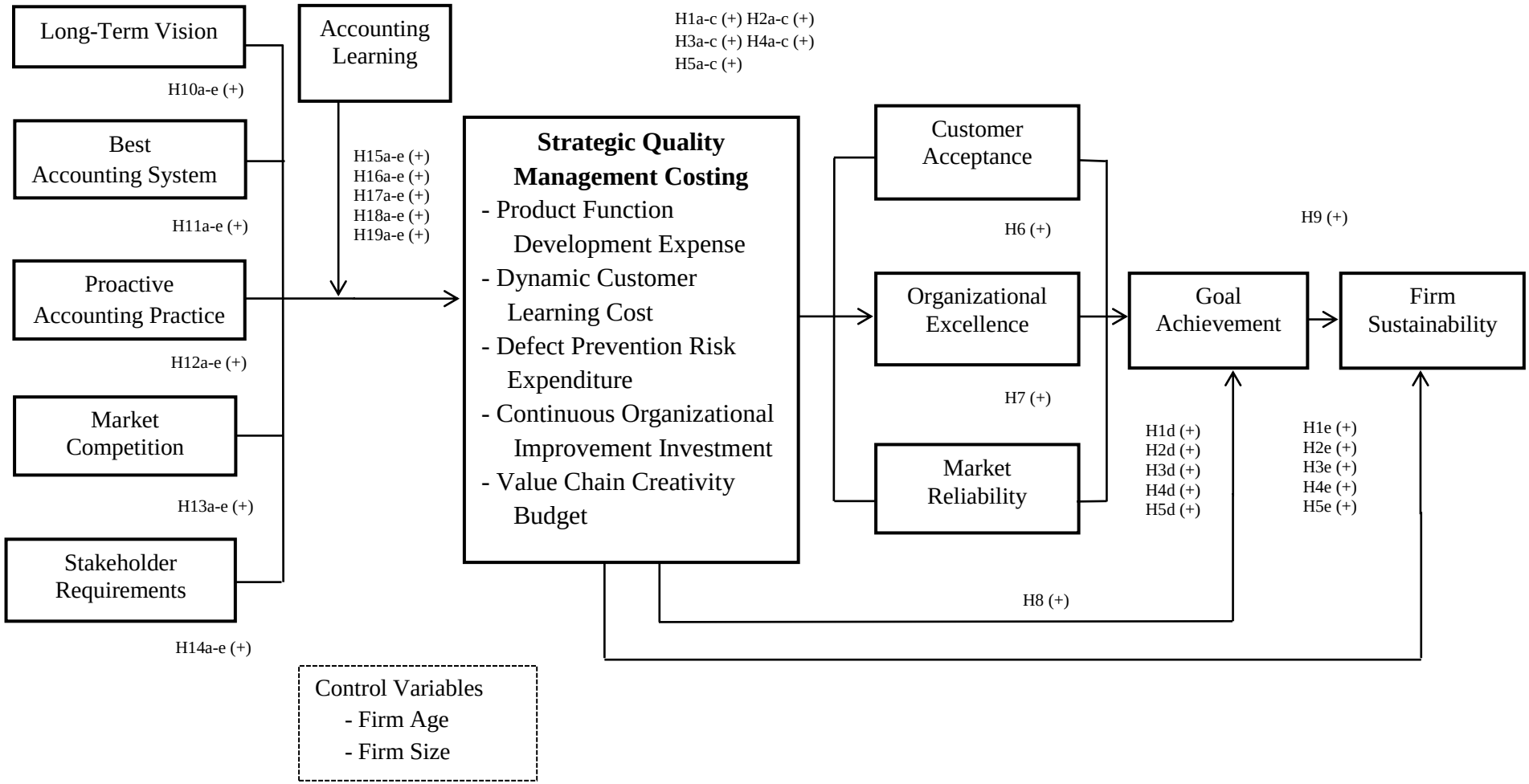
Relevant Literature Reviews and Research Hypotheses

According to the theoretical foundations, SQMC has employed two theories of support, namely the resource-based view and contingency theory. This research proposes a conceptual model for empirical research, investigating in the topic “Strategic quality management costing and firm sustainability: An empirical investigation of ISO 9000 manufacturing firms in Thailand”as shown in Figure 1. SQMC is assigned as independent variables, while firm sustainability is designated as the dependent variable. Customer acceptance, organizational excellence, market reliability, and goal achievement are the mediating effects of the research. Long-term vision, best accounting system, proactive accounting practice, market competition, and stakeholder requirements are also antecedents of SQMC. In addition, accounting learning relationships are the moderating effects of the research. This model aims to investigate the relationships of those variables which are separated into three sections as detailed below.

Firstly, this research has approached the test of the main effect of SQMC on firm sustainability. In this research, SQMC comprises five dimensions which include product functional development expenditure, dynamic customer learning cost, defect prevention risk expenditure, continuous organizational improvement investment, and value chain creativity budget. In the mediating effect among SQMC dimensions, firm sustainability is composed ofcustomer acceptance, organizational excellence, market reliability, and goal achievement.

Secondly, this research relates to the antecedent variables of SQMC that have internal and external factors that cause the effects of SQMC. These include long-term vision, best accounting system, proactive accounting practice, market competition, and stakeholder requirements as the antecedent variables. These are examined, and are expected to have a positive relationship with SQMC. Finally, this research also examines the moderator, namely, accounting learning effects among SQMC and antecedence variables. Accordingly, the developed conceptual model of this research is illustrated in Figure 1 below.

Figure 1 Conceptual Model of the Relationships between Strategic Quality Management Costing and Firm Sustainability



Strategic Quality Management Costing

Quality management (QM) has become one of the management tools that have been popular in intense competition. Important quality management has been well-recognized in the business world since the 1980s. QM is one of the key strategies of world-class manufacturing (Steinbacher and Steinbacher, 1993). Next, the concept of "strategic quality management (SQM)" was identified from the first theoretical to applied research by the renowned world quality researchers Deming, Juran, Crosby, Feigenbaum, Ishikawa, and Garvin. The definition of SQM as a comprehensive and operations strategic linking profitability, objectives, and competitiveness to quality improvement efforts with the aim of controlling the human, material and information resources organization all in continuously improving products or services that will allow the delivery of customer satisfaction (Rao-Tummala and Tang, 1996).

Furthermore, SQM is the process of quality management activities focus towards the long-term direction and advance of quality enhancement strategies by ensuring the careful determination through strategic quality planning, suitable implementation, necessary quality strategies, and continuous assessment through improvement and control (Aravindan, Devadasan and Selladurai, 1996). From the recent studies conducted by Paraschivescu and Caprioara (2014) found that that the new SQM is based on the quality of organization, planning, empowerment and broad commitment to complete customer satisfaction. In addition, who also suggests that all these segments bring to development a new quality management practices element collaborative quality, creative quality, and strategic quality. The term "quality management (QM) practices" refer to major activities that are expected to lead, directly or indirectly, and have improved quality performance and competitive advantage (Flynn, Schroeder andSakakibara, 1995). Likewise, QM practices are the extent to which a firm improves the quality of products, processes, and maintains equipment productivity (Yang, Hong and Modi, 2011).

Previous researches confirm that SQM is moving towards a new generation approach for integrating quality and sustainable development approach. However, there are core SQM practices in different ways in the literature. Below is a summary of a core practice of SQM as presented in Table 1.

Table 1 Summary of a Core Practices of Strategic Quality Management and Supporting Literature

Core SQM practices	Descriptions	References
Customer focus, Customer satisfaction and orientation	Identify existing customers, Assess customers' needs, Understand customer expectations better.	Ahire and O'Shaughnessy (1998), Anderson and Sedatole (1998), Douglas and Judge (2001), Flynn, Schroeder and Sakakibara (1995), Kapucu, Volkov and Wang (2011), Sila (2007), Talib and Rahman (2010), and Zu, Fredendall and Douglas (2008)
Process management	Increase process control, Increase process reliability, Re-engineering material flows, Lean practices, manage inventory, Investment in the chain.	Ahire, Golhar and Waller (1996), Das and Joshi (2011), Fynes, Voss and Burca (2005), Kaynak (2003), Klassen and Menor (2007), and Rungtusanatham et al. (1998)
Teamwork	Increase process reliability, Focus on within solving functional problem, Focus on cross, Functional cooperation.	Dow, Samson and Ford (1999), Lai and Lee (2001), and Lorente, Rodriguez and Dale (1998)
Trainingand education	Conduct training on existingskill, Conduct training on multiple skills and new skills.	Ahire and Dreyfus (2000), Ahire and O'Shaughnessy (1998), Douglas and Judge (2001), Dow, Samson and Ford (1999), Kaynak (2003), and Linderman et al. (2004)

Table 1 Summary of a Core Practice of Strategic Quality Management and Supporting Literature (continued)

Core SQM practices	Descriptions	References
Continuous improvement	Plan-do-check-action cycle, Quality control tools, Statistical process control, Sampling and inspection.	Ahire and Ravichandran (2001), Aravindan, Devadasan and Selladurai (1996), Juergensen (2000), Lo and Yeung (2004), Mahapatra and Khan (2006), and Talib and Rahman (2010)
Product and Service design, innovation	Increasing design quality, Guaranteeing manufacturability design, Design quality leads to standardizing components, Simplifying designs, Inter-functional design process.	Ahire and Dreyfus (2000), Flynn, Schroeder and Sakakibara (1995), (1994), Kaynak (2003), Nair (2006), and Zu, Fredendall and Douglas (2008)
Prevention	Concept of zero defects, Defect reduction, Reducing the potential for defective parts, Quality improvement programs.	BSI (1991), Feigenbaum (1991), Giakatis, Enkawa and Washitani (2001), Juran (1962), Martinez and Lorente (2008), and Visawan and Tannock (2004)
Supply-chain quality	Strategic planning, Cross-functional teams, Information and analysis, Inter-organizational relationship, Supplier participation.	Burgess, Singh and Koroglu (2006), Chen and Paulraj (2004), Flynn and Flynn (2005), Kuei, Madu and Lin (2001), and Ulusoy (2003)

Based on the literature review and expert opinions form Table 1 above, these papers vary from the conceptual issues of SQM to the practical and empirical issues. Thus, the SQM practices of each firm uses different results would almost certainly be different. It reflects the intention of the company that the company's own specific set of resource and strategy priorities (Alidrisi and Mohamed, 2012). Thus, the firm is needed a core SQM practices approach to quality strategy because for it is an undeniable strategic role in obtaining performance is his dominion in all areas: economic, commercial image, overall productivity, participation and motivation of all staff, and customer satisfaction.

Consequently, the firm should have most reliable tool for evaluation of efficiency and effectiveness of the realized measures for quality promotion and a basis for all decisions referring to quality. For evaluating the performance of SQM practices, firms need to collect various quality-related information of the internal operations and differing costs of quality because this information can be used to ensure the process capability is known to meet the production requirement (Das, Paul and Swierczek, 2008). Accurate documentation of various process circumstances is necessary for process capability and clear advice for equipment operation can help to reduce the possibility of operator errors.

Studies have empirically found that managing quality data provides alternatives for establishing a strategic relationship with a new product development, suppliers, and improving processes, all of which affect organizational performance (Kaynak, 2003). Further, quality data and reporting can promote to the scope aim which an organization uses quality data, regularly measures quality, and evaluates the productivity of employees based on quality performance (Saraph, Benson and Schroeder, 1989).

In addition, quality data can help employees and director when adjust and improve processes (Kaynak, 2003). It is possible for employees and director to appropriately analyze and use quality data collected from inter-function departments, such as marketingand research and development (Zu, Fredendall and Douglas, 2008). Importantly, the management of quality data advice alternatives for analyzing non-value-added practices and standardizing product development practices, allowing employees to focus on operating core practices. Which trust in core practices, a firm is

able to reduce development time and cost and to be more responsive to a competitive market.

The literature previously found that “quality cost” is a tool that has passed the test and is confirmed as a true tool for improving the quality management in manufacturing firms (Cheah et al., 2011; Khataie and Bulgak, 2013; Omar and Murgan, 2014). However, the definition of quality costs may be given differently by various authors. Based on quality management research, it was found that they use the terms “quality cost” and “costs of quality (COQ)”. In regard to “quality cost” concept, Juran (1962) states that quality cost is the cost of carrying out the company’s quality mission. Further, quality cost is the most reliable tool for evaluation of efficiency and effectiveness of the realized measures for quality promotion and a basis for all decisions referring to quality (Akenbor, 2014). In addition, quality cost report is a function normally assigned to either quality or production departments; since there is a general assumption that, for this purpose, necessary data are originated exclusively in those areas and, therefore, accounting information is negligible.

Whereas COQ is defined as the expenditure incurred by the producer, by the user and by the community, associated with a product or service quality (British Standard Institute, 1991). Thus, it could be noted that both terms such as “quality cost” and “costs of quality” likewise mean cost or expenditure incurred by quality management practices. COQ reporting plays an important role in achieving customer satisfaction and can identify, analyze and quantify quality related costs which could be used as a performance indicator, to prioritize quality improvement initiatives and as a cost reduction tool (Arvaiova, Aspinwall and Walker, 2009). COQ system which was developed has been formalized into four categories of quality costs or called PAF Model consist prevention costs, appraisal costs, internal failure costs, and external failure costs (Ramudhin, Alzaman and Bulgak, 2008; Roden and Dale, 2001; Sower, Quarles and Broussard, 2007)

From the above reviewed literature and expert author opinions this research can be combined quality cost and cost of quality that it is cost accounting approach within function and categories of quality cost information which focuses cost information to support manager succeed monitoring, controlling, assessing, and improving existing management systems, and achieving quality objectives.

Based on the literature review issue of SQM and the role of quality cost information aims make it a better option for establishing the cost accounting for quality management in a new perspective. This research attempts to extend the literature by proposing the strategic quality management cost (SQMC). SQMC is defined as the firm's capabilities to collect, classify, analyze, and report the quality cost information for the usefulness of measuring and evaluating the priority importance of quality problems and identifies major opportunities in order to cost reduction and improve quality management leading to firm sustainability.

SQMC is organized into two concepts that back up its definition and character. First, the SQM practices that provide relevant theories and recent research discussion about core SQM practices on operations strategy from literature reviews and link to valuable insights into manufacturing strategy and a set of challenges posed to manufacturing enterprises of the future. Second, the cost accounting by adapting models for implementing a cost of quality system of Chopra and Garg (2012), and integration of cost of quality system and accounting practices of Sedevich-Fons (2012). Both concepts are valid, have comprehensive content, and are clearly enoughevidence. Therefore, the SQMC attention uses their concept founded, in order to provide that support of five dimensions of SQMC.

In summary, the SQMC focuses on the development of a comprehensive model by incorporating the focus on core SQM practices and quality cost system efficiency in manufacturing firms. Thus, SQMC consists of five dimensions including: 1) product function development expense, 2) dynamic customer learning cost, 3) defect prevention risk expenditure, 4) continuous organizational improvement investment, and 5) value chain creativity budget. The research develops a construct of SQMC and its measurement, and attempts to define how SQMC affects consequences including customer acceptance, organizational excellence, market reliability, goal achievement, and firm sustainability. In addition, this research also explains how the antecedents influence SQMC. However, this research proposes a more detailed discussion of the five distinctive dimensions of strategic quality management costing which are based on the resource-based views (RBV). Thus, a summary of key literature review on cost accountingfor quality management in presented in Table 2 below.

Table 2 Summary of a Key Literature Review on Cost Accounting for Quality Management

Authors	Title	Key Issues Examine	Main Findings
Lin and Johnson (2004)	An Exploratory Study on Accounting for Quality Management in China	This paper is a survey study on the applicability of the quality-oriented accounting measures under the business environment in China.	Manager's Chinese business and accountants have generally recognized the importance of quality management to firms' survival and growth and supported that quality-oriented accounting information relates quality control and management.
Palmer and Davis (2005)	Cost accounting for Rational FCIM Investment Analysis.	The purpose is to study allocations of technology cost and impact on flexible computer-integrated manufacturing (FCIM) system investment, and alternative depreciation model.	The proposed model better enables rational analysis of FCIM system investment options, resulting in a more accurate prediction of income and product line profitability attributable to FCIM system investment.
Yasin, Bayes and Czuchry (2005)	The Changing Role of Accounting in Supporting the Quality and Customer Goals of Organizations: An Open System perspective.	This paper examines the changing role of the accounting subsystem in the context of the open system business model which characterizes the modern business organization.	This found that encouraging an information cost orientation rather than art allocation of cost approach will result in improved value propositions throughout the supply chain, reallocated to improve information systems and fully integrate customers, suppliers and the business organization.

Table 2 Summary of a Key Literature Review on Cost Accounting for Quality Management (continued)

Authors	Title	Key Issues Examine	Main Findings
Pizzini (2006)	The Relation between Cost-System Design, Managers Evaluations of the Relevance and Usefulness of Cost data, and Financial Performance: An Empirical Study of US Hospitals	This study explores the relationship between cost-system functionality and management's beliefs about the relevance and usefulness of cost information, and actual financial performance.	The study found that managers believe the system provides detailed cost more on average compared with hospitals in the context of similar organizations to make more relevant and more useful. There is also evidence that better classification of costs as a generalization and grouping the same as the content is relevant to the assessment of the management of the relationship between higher information and applications as well as the actual financial performance.
Brierley Cowton, and Drury (2006)	A Comparison of Product Costing Practices in Discrete-Part and Assembly Manufacturing and Continuous Production Process Manufacturing	This research examines how companies use a variety of accounting systems. The rate covers the cost of a product costing; The base used to calculate the costs; the application costs in its decisions; profitability maps.	The research shows that there are a variety of methods used to calculate the cost of the product and that method they are used depends on the level of significant decisions. The results showed that there was little difference between the product costing practices, between the two manufacturing methods.

Table 2 Summary of a Key Literature Review on Cost Accounting for Quality Management (continued)

Authors	Title	Key Issues Examine	Main Findings
Lind and Stromsten (2006)	When do Firms Use Different Types of Customer Accounting?	This paper develops a framework to explain the choice of the business regarding technical customer accounting technique based on customer resource interfaces which do case studies from the telecom company Ericsson and the paper company Holmen.	The paper reports that four different customer relationships; transactional, facilitative, integrative and connective, for examples, transactional customer relationships will be techniques low while the organizational interfaces associated with customer segment profitability analysis.
Wu and Chen (2006)	An Integrated Structural Model toward Successful Continuous Improvement Activity	This research studies from different perspectives Bessent et al. (2001) on activities to improve the organization continued success. The concept is to encourage businesses successfully today by seeking more profitable.	This research suggests that a business that enters the competition from the continuous improvement activities should diagnose and analyze the time to understand the weaknesses of the implementation process and take corrective action when it is necessary to check manually via super that is the best way towards a successful continuous improvement.

Table 2 Summary of a Key Literature Review on Cost Accounting for Quality Management (continued)

Authors	Title	Key Issues Examine	Main Findings
Bonney et al. (2007)	From Serendipity to Sustainable Competitive Advantage: Insights from Houston's Farm and their Journey of Co-Innovation.	The purpose of this paper is to illustrate the importance of a strategic approach to innovation, collaboration and the use of value chain research for identifying opportunities for co-innovation.	This paper identifies the nature of the value chain with the pursuit of a common vision through aligned strategies, structures and processes, based on trust, open communication, a commitment to continuous improvement, understanding the value of consumer products and a clear focus on value creation chain. Value chain focuses on strategy and strengthens process to achieve the co-innovation of R & D and new product development.
Stoian and Memon (2007)	The Worldwide Importance of Construction Quality Cost	The main purpose of this research is the application of quality management practices in construction to prevent the cost of failure, the quality of the construction site.	This study shows that construction companies and consulting firms especially designed to manage quality that has paid more attention to the design development process to prevent rework occurs during the process of the project.

Table 2 Summary of a Key Literature Review on Cost Accounting for Quality Management (continued)

Authors	Title	Key Issues Examine	Main Findings
Kim and Nakhai (2008)	The Dynamics of Quality Costs in Continuous Improvement.	The purpose of this study is to examine the behavior of the quality cost and inspection two views that are conflict PAF model based on "higher quality-higher cost "notion, fails to explain the" higher quality-lower cost "premise of total quality.	Continuous improvement regardless of the effectiveness of the firm's quality improvement programs. The "higher quality-lower cost" withal, in a less effective quality improvement program, the "higher quality-higher cost", It also calls for increased efforts to improve its needs for quality sustainability.
Anderson and Dekker (2009)	Strategic Cost Management in Supply chains, Part 1: Structural Cost management, Part 1: Execution Cost Management	This paper shows two-part series that review exciting stream of new research studies that examine strategic cost management in the supply chain.	The first series suggest that structural cost management use tools of organizational design, product design, and process design to create a supply chain cost structure that is consistent with firm strategic. The second series suggest execution cost management to use measurement and analysis tools cost driver analysis, supplier scorecards to evaluate supply chain commitment and sustainability.

Table 2 Summary of a Key Literature Review on Cost Accounting for Quality Management (continued)

Authors	Title	Key Issues Examine	Main Findings
Geibdorfer et al. (2009)	State and Development of Life-Cycle Cost Analysis Models in Strategic Cost Management	This paper explores the standards of lifecycle cost analysis models for the strategic cost management. The standard cost elements of qualitative factors, consideration period, overall equipment efficiency, revenue effects, and transaction costs.	The paper asserted that the relationship of these components depending on the context factor country, sector, company size, object type, and function has been appraise, and the relevance of detailed essential for qualitative factors, thought period, overall apparatus efficiency, and transaction cost has been decided.
Bana and Sgardea (2009)	Cost Management and Cost Control in Decision Process of Organizations.	This paper demonstrates the importance of the cost of preparing the necessary information on the management to take decisions in the best environment of the company crisis.	This paper describes the management control development and preferred methods, account analysis. The organization in Romania and Europe is the demand and the need for competition, or in other words, the indirect costs of competition.

Table 2 Summary of a Key Literature Review on Cost Accounting for Quality Management (continued)

Authors	Title	Key Issues Examine	Main Findings
Brad (2010)	A General Approach of Quality Cost Management Suitable for Effective Implementation in Software Systems	This paper presented a credibility framework of quality cost management systems (QMS) that was expression with the rising and uncertaintyof the business environment.	This research suggests that the added flexibility to enhance customizability in a cost-effective and user-oriented way, as well as increasing the level of. "Intelligence" can support decision-making process. In addition, a software application provides an effective intelligent support for the decision-making process within QCMS to extend performance to higher quality of the data entry recommended by experts and operators in the system.
Verbeeten (2010)	The Impact of Business Unit Strategy, Structure and Technical Innovativeness on Change in Management Accounting and Control Systems at the Business Unit level: An Empirical Analysis.	This study tests the hypothesis that business unit strategy and business unit structure affect change in a business unit's management accounting & control system (MACS).	The results indicate that the administrative capacity of a business unit is the main driver of change in MACS. It is clear therefore that business unit strategy and business unit structure affect change in specific components of MACS at the business unit level, apparently depending on whether the change in MACS facilitates or influences managerial decisions.

Table 2 Summary of a Key Literature Review on Cost Accounting for Quality Management (continued)

Authors	Title	Key Issues Examine	Main Findings
Cohen and Kaimenaki (2011)	Cost Accounting Systems Structure and Information Quality Properties: An Empirical Analysis	This paper is to examine the association between the structure of costs systems and features of the data quality framework by means an integrated system of design, cost and usability.	The study indicated that the structure cost accounting systems have a significant positive impact on dimensions of cost information. However, the variable capability of a classification system based on cost behavior and the ability to customize reports in accordance with the user. There was no significance to the quality of the data.
Guney (2012)	Place of the Marketing Information in Reaching the Target of the Financial Information Produced in Accounting	This research studies the categories and the use of accounting information in order to plan and control the activities of the future business.	The results suggest that the process of accounting information system can produce numerical information then it will be converted to marketing costs by using cost accounting, then the result will be transferred to your account. Marketers use accounting information as a resource to start operation which said that the end result of accounting for the market data itself.

Table 2 Summary of a Key Literature Review on Cost Accounting for Quality Management (continued)

Authors	Title	Key Issues Examine	Main Findings
Pirvu et al. (2012)	Implementation of Strategic Principles in Cost Management: Control of Cost variations through Statistical Studies.	The primary objective of the study is to display the control on cost evolution in conditions of uncertainty and risk in the event that happens in the company's operations.	The study points out that takes into account the information about costs is an important factor in business administration. The study concluded that the cost data to support the production process can be carried out continuously and controlled by the major changes regarding the amount and structure of factors of production properly.
Alnawaiseh, AL-Rawashdi and Alnawaiseh (2014)	The Extent of Applying Value Chain Analysis to Achieve and Sustain Competitive Advantage in Jordanian Manufacturing Companies	This study expects at recognizing the degree of applying esteem chain dissection (VCA) that will accomplish. What's more manage aggressive point done for manufacturing organizations are done in Jordan.	This study suggests training employees to perform strategic analysis of the environment both inside and outside the company, the value chain analysis training, the cost per unit of production. As a result, organizations can achieve their goals and sustain competitive advantage through cost reduction strategies and make a difference.

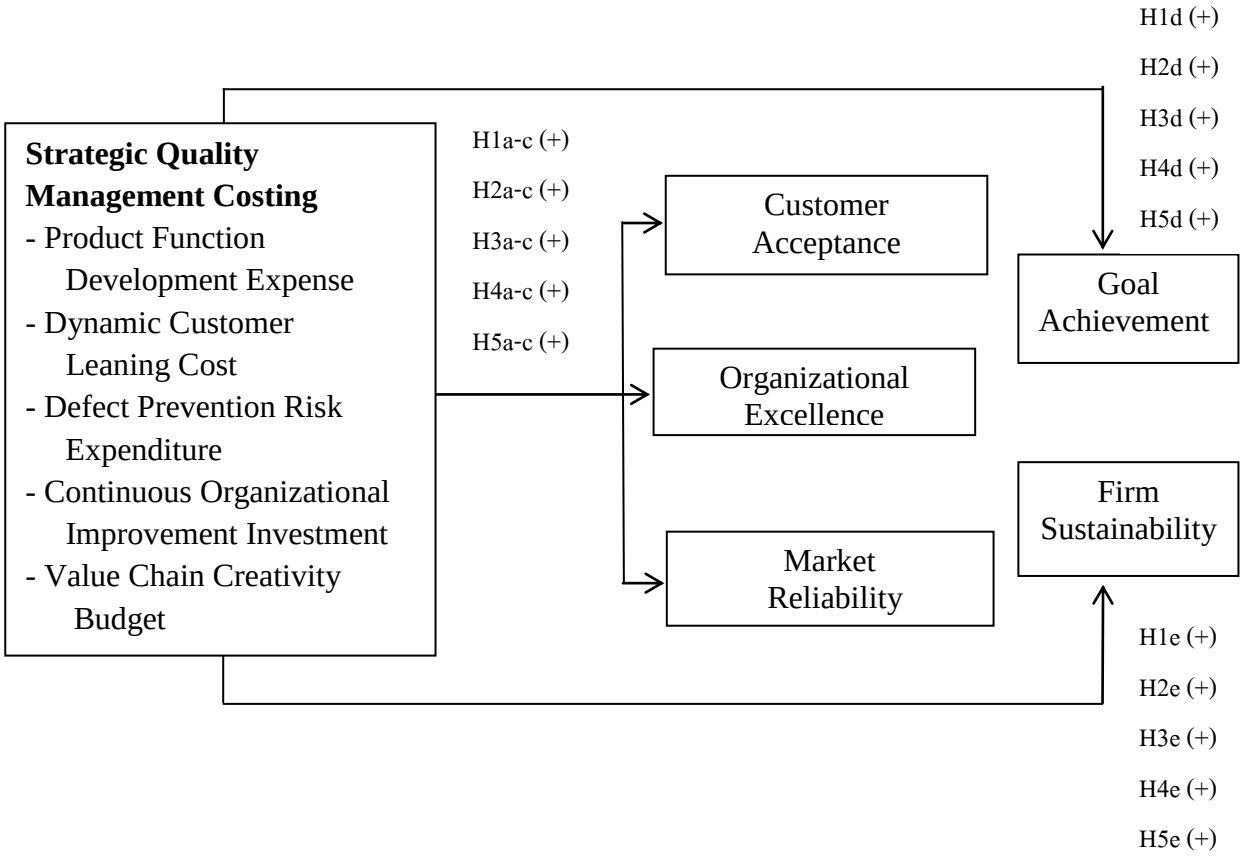
Table 2 Summary of a Key Literature Review on Cost Accounting for Quality Management (continued)

Authors	Title	Key Issues Examine	Main Findings
Akenbor (2014)	An Accounting Reflection of Quality Cost and Customer Satisfaction of Health Products in Nigeria	This study investigates the reflection of the quality cost accounting and customer satisfaction of healthcare products in Nigeria.	The study finds that a positive huge relationship between quality conformance expense and customer satisfaction of well being items yet a negative noteworthy relationship between quality non-conformance expense and customer satisfaction. It was suggested that quality conformance cost in order to kill inward and outside disappointment cost for enhanced customer satisfaction.
Chiarini (2015)	Effect of ISO 9001 Non-Conformity Process on Cost of Poor Quality in Capital-Intensive Sectors	This paper is to research whether there are contrasts regarding the impact of the ISO 9001 non-conformity process on the cost of poor quality in various areas.	The results of the exploration that there is no distinction inside and between the areas in the method for the total cost of poor quality and scrap cost, though there are huge contrasts in the method for total cost of poor quality between the six sectors.

Consequences of Strategic Quality Management Costing

This section investigates the effects of five dimensions of SQMC consisting of product functional development expenditure, dynamic customer learning cost, defect prevention risk expenditure, continuous organizational improvement investment, and value chain creativity budget on three consequences, including customer acceptance, organizational excellence, market reliability, goal achievement, and firm sustainability as shown in Figure 2.

Figure 2 The Effects of Strategic Quality Management Costing on Consequences



Product Function Development Expense

In the traditional approach, the quality of products is evaluated with the consideration of physical characteristics and features such as their solidity and reliability. However, nowadays, many companies have reconsidered the concept of quality. The most desirable and successful product would not be considered ideal if it cannot meet customer needs

and expectations (Jafar et al., 2010). In fact, the new meaning of quality requires new strategies for organizing, executing and controlling. Today, paying attention to quality is no longer the responsibly of a small group of people who monitor performance and remove defective products from the assembly line. Instead, all ranks considered as effective elements of quality.

The scope of quality management and the COQ framework relate to product development and production. According to Anderson and Sedatole (1998) reported that COQ framework has provided the analysis tools such as quality function deployment (QFD) and conjoint analysis used at each product stage to ensure design or conformance quality. Further, that uses of cost data promote design or conformance quality. QFD is defined as a method to develop design quality aimed at satisfying customers and translating the customers' demands into design targets and major quality assurance points to be used throughout the production phase (Akao, 1990). In addition, the opinion of Feigenbaum (1991) suggested that quality cost categorization has appraisal costs as the costs of evaluating product quality with the purpose of ensuring those quality products.

On the one hand, the usefulness of product cost information is that it was the least important element in making decisions on selling prices, make-or-buy, cost reduction, product design, evaluating new production processes and product discontinuation (Brierley, Cowton and Drury, 2006). Similarly, Pizzini (2006) claims that accurate product costs can be built from accurate records of compilation cost data by appropriate cost accounting methods, allocating factory overhead by accurate and appropriate criteria calculation of product costs by using real, complete cost data, and careful processing that calculates the product cost. Worthy (1987) also pointed out that accurate product costing is critical for product pricing, product introduction and product emphasis, especially where multiple products are involved. Furthermore, the changes in the competitive landscape and increased global competition necessitates accurate product costing (Cooper, 1988).

These results pointed out that the accuracy of quality cost information, relevant to product function development helps managers to understand the use of resources across the value chain to deliver quality management results. Therefore, those expenses incurred from product function development, should be presented in quality cost reports

that have “detailed quality cost” about planning, determination and preview of requirements related to product, design and development, and validation and control, based on product-based quality (Sedevich-Fons, 2012). In a resource-based view perspective that extends to resources of a firm that covers knowledge management, this research means the ability of a firm in developing a product function that the firm creates products with distinctive features.

Following the resource-based view and literature review as mentioned above, and in this research, product function development expense is defined as the firm’s ability to managing cost accounting associated with allocation resource for activity performs about design, develop, production the characteristics and features of products in order to achieve customer satisfaction (Akao, 1990; Kaynak, 2003; Nair, 2006). Thus, product function development expense has the possible potential to positively affect the consequence variables: customer acceptance, organizational excellence, market reliability, goal achievement and firm sustainability. To summarize, the hypotheses are proposed as follows:

Hypothesis 1a: Product function development expense will have a positive influence on customer acceptance.

Hypothesis 1b: Product function development expense will have a positive influence on organizational excellence.

Hypothesis 1c: Product function development expense will have a positive influence on market reliability.

Hypothesis 1d: Product function development expense will have a positive influence on goal achievement.

Hypothesis 1e: Product function development expense will have a positive influence on firm sustainability.

Dynamic Customer Learning Cost

In the traditional approach, a customer focus is essential to quality management (QM) performance, and achieving the ultimate objective is customer satisfaction (Ahire and Ravichandran, 2001; Flynn, Schroeder and Sakakibara, 1995; Nair, 2006; Sila and Ebrahimpour, 2003). Moreover, marketing's role is the important implementation of quality management in that an organization must make sure that any attempt to improve quality focuses on increasing customer satisfaction, than to recognize of its own quality requirements of management (Lai and Cheng, 2005). The overall goal of quality management is to have tools for ensuring that the customer's voice and the voice of the organization's operations in order to deliver products and services to create customer satisfaction (Lai and Cheng, 2005).

On this basis, it may be inferred that organizations meet or exceed customer expectations and achieve high quality performance (Evans and Lindsay, 2008). Thus, it might be stated that customer information is a core data of quality management. The work of Korhonen (2010) provides that customer information refers to data and information about customer orders, customer needs and expectations, customer satisfaction, the customers' general buying habits and behaviors, customers' market segment characteristics, and business development.

For the importance of customer learning, Slater and Narver (1998) explain that because of its commitment to continuous learning, uncovering customer latent needs and organization-wide integration of resources. It could be noted that learning refers to the process of excerpted, hidden, and predictive information from large databases to identify valuable customers, learn about their preferences, predict future behaviors, and estimate customer value (Sun, Li and Zhou, 2006).

Customer learning capability is defined as the ability of the firm to acquire, understand, disseminate, and utilize information from customers to develop a marketing strategy and create superior value for customers (Feng et al., 2012; Phokha and Ussahawanitchakit, 2010; Theoharakis and Hooley, 2008). Similarly, the findings indicate that the extent of customer information collected within a company, and the sharing of this information improves both direct and indirect customer information usage (Rollins, Bellenger and Johnston, 2012). It was found that developing close relationships with customers requires identifying customers' requirements, receiving

feedback from customers, and conveying this feedback to employees who can then execute changes based on the feedback. It also entails involving customers in product/ service design, and ensures that employees understand who their customers are (Ahire and Golhar,1996; Ahire and Ravichandran, 2001; Easton and Jarrell, 1998). In this research, dynamic capability will lead the firm to sustainability, and serve as an overarching resource-based view.

According to the decreasing costs of computing power and increasingly sophisticated methods of customer data collection, the customer database has become a core asset for organizations of all types and sizes (Van-Raaij, 2005). These include costs of activities which are performed with the purpose of accountability to complaining customers, satisfying them, and covering the company itself. The costs of making telephone calls, working hours needed for polling forms to be filled in by customers, customer voice projects, and in some cases, making restitution to customers, can be mentioned in this category. The quality of the customer data collected, analyzed, and utilized in customer orientation provides direction for a team consisting of at least a marketer and a management accountant (Van-Raaij, Vernooij and Van-Triest, 2003). Therefore, the firm should allocate a budget for customer learning so that the customer information will be valuable and support operational effectiveness. The accuracy of the customer data helps managers to understand situations of customer behavior and to be successful in using effective resources in the value chain to deliver quality management results.

Following the resource-based view and literature review as mentioned above, and in this research, dynamic customer learning cost is defined as the firm's ability to manage cost for accessing customer expectation, customer requirement, and customer need through customer database investment and communications regularly for understanding a customer change (Kapucu, Volkov and Wang, 2011; Rollins, Bellenger and Johnston, 2012; Talib and Rahman, 2010). Thus, dynamic customer cost has the possible potential to positively affect the consequence variables: customer acceptance, organizational excellence, market reliability, goal achievement and firm sustainability. To summarize, the hypotheses are proposed as follows:

Hypothesis 2a: Dynamic customer learning cost will have a positive influence on customer acceptance.

Hypothesis 2b: Dynamic customer learning cost will have a positive influence on organizational excellence.

Hypothesis 2c: Dynamic customer learning cost will have a positive influence on market reliability.

Hypothesis 2d: Dynamic customer learning cost will have a positive influence on goal achievement.

Hypothesis 2e: Dynamic customer learning cost will have a positive influence on firm sustainability.

Defect Prevention Risk Expenditure

Prevention of defects is a found principle of TQM, and the ultimate target in that regard is a defect-free operation (Feigenbaum, 1983). The quality performance standard is zero defects (Crosby, 1984) because zero defect methodology is the absolute of management. The evidence seems to indicate that the defect problem of operations must be prevention. Thus, prevention cost is costs associated with reducing potential for defective parts or services (e.g., training, quality improvement programs). Fundamentally, the failure costs will be decreased if organizations invest in prevention or appraisal activities properly, but some organizations cannot accomplish this result because they donot know which areas (e.g., method, human resource, material, machine, maintenance) are more essential to be considered for investing to fulfill customer expectation in terms of both quality and price (Suthummanon and Sirivongpaisal, 2011).

Prevention costs are elements and sub-elements of cost of quality (COQ) from four major categories of costs that are associated with quality (Feigenbaum, 1991; Juran, 1962). The distinction between quality cost and quality loss is by the introduction of the added categories of prevention loss, appraisal loss, manufacturing loss and design

loss (Giakatis, Enkawa and Washitani, 2001). Prevention costs consist of the cost of the activities that are incurred to prevent a product production or the execution of a service that does not conform to its design specification. According to the British Standards Institution (1991) definition, related quality costs are the expenditures incurred in defect prevention activities, appraisal activities, and losses and activities due to internal and external failures. Additionally, the usefulness of quality cost information is used to transform quality problems to the top management, who are generally more concerned with financial performance (Rahahleh, 2010). A case study by Visawan and Tannock (2004) shows that increased spending on appraisal and prevention caused a rapid reduction in total quality costs.

However, risk management is most important with detects because risk can occur in all decisions that execute of the firm's strategy, and are not unique to buyer/ supplier transactions. Nonetheless, performance risk is common in supply chain activities. It is the view of O'Keefe (2004) who observes that the supply chain professionals identified the three most significant risks: supply chain disruption (caused by supplier failure, logistics failure, natural disaster, or geopolitical event), weak senior leadership in supply chain management; and absence of accurate and timely supplier performance measures. Studies in risk management have made advances in identifying and measuring operational risk (Deloach, 2000; Meulbroek, 2001).

This research proposes that usefulness of quality cost report helps managers to understand a situation of risk and to successfully use prevention of internal and external failures, and quality standards to keep the results. A reference to Sedevich-Fons (2012) reveals that an overall advantage of unifying the quality cost measurement method and the accounting practice into one single system is that it enables companies to improve the check stage of the PDCA cycle (plan, do, check, act) through increasing its effectiveness and efficiency. This research applies the resource-based view in the context of quality control used to achieve a competitive advantage and achieve organizational goals. With a description of the resource-based view is a resource of a firm that covers quality management practices. This research means the operation's capability that appeared in the form of risk management investing, control systems, and policies bring zero detects.

Following the resource-based view and literature review as mentioned above, and in this research, defect prevention risk expenditure is defined as the firm's ability to

managing cost accounting system for establishing the systematic and methodology for protecting probability of failures in the work operations (BSI, 1991; Meulbroek, 2001; Visawan and Tannock, 2004).Thus, defect prevention risk expenditure has the possible potential to positively affect the consequence variables: customer acceptance, organizational excellence, market reliability, goal achievement and firm sustainability. To summarize, the hypotheses are proposed as follows:

Hypothesis 3a: Defect prevention risk expenditure will have a positive influence on customer acceptance.

Hypothesis 3b: Defect prevention risk expenditure will have a positive influence on organizational excellence.

Hypothesis 3c: Defect prevention risk expenditure will have a positive influence on market reliability.

Hypothesis 3d: Defect prevention risk expenditure will have a positive influence on goal achievement.

Hypothesis 4e: Defect prevention risk expenditure will have a positive influence on firm sustainability.

Continuous Organizational Improvement Investment

Continuous organizational improvement refers to continuous improvement (CI) literature that addresses the topic of organizational change. Organizational life cycle (OLC) stages reflect the various stages of the development of organizations with each stage reflecting the integral complementarities that are identified following the simultaneous consideration of multiple contingent variables (Miller and Friesen, 1984). In addition, Miller and Friesen (1984) also suggest that development of a dynamic form of configuration by classifying organizations into different development stages, based on the simultaneous consideration of four contingent variables: organizational situation, strategy, structure and decision-making style.

According to Wu and Chen (2006), mention that continuous improvement is an ongoing activity aimed at raising the level of organization-wide performance through focused incremental changes in processes. Continuous improvement has emerged as a key concept regarding how companies should both approach production and view quality (Imai1986). Then, Deming (1986) adopted the concept of continuous improvement as his first quality principle by pointing out that constancy of purpose is achieved through endless churning of the PDCA cycle (plan, do, check, act).

Organizations aim to achieve continuous improvement capability through deployment of continuous improvement initiatives such as lean management and Six Sigma (Voss, 2005). Furthermore, in the pursuit of product quality improvement, companies are often faced with the challenge of assessing the feasibility of large quality improvement investments in economic terms. However, often these strategic assessments are limited to tangible costs such as rework and warranty ignoring significant cost effects on unit sales due to customer satisfaction (Schiffauerova and Thomson, 2006b).

Continuous improvement can be the key to global business competitiveness. Continuous improvement is the philosophy of improvement initiatives that increases success and reduces failure (Juergensen, 2000). In addition, when continuous quality improvement projects are described in terms of return on investment (ROI), involvement of the top management immediately occurs (Harrington, 1999). According to Whitehall (1986) who argues that investments in prevention activities will help to eliminate defects and improve the effectiveness of appraisal activity.

The manager requires that the information relevant to the decision is accurate, complete and timely. The quality cost reports is a function normally assigned to processes of either quality or production departments one of the most important roles of quality cost reports is segment reporting (Sedevich-Fons, 2012). It is provided data that management can use to evaluate the operations and project investment of individual segments within a company. Thereafter, variable costing may provide useful information for internal decision-making. Further, the setting of a COQ system should consider work to identify, classify and measure quality-related activities (Chopra and Garg, 2012).

Resource-based view theorists identify that resources refer to tangible and intangible assets, capability, information, process, finance, technology, knowledge, and

human resources (Maijoor and Witteloostuijin, 1996). Thus, this research applied that investing in organizational improvement can be done in a variety of channels of both tangible assets and intangible assets, which those assets are new resources that are unique and potentially more valuable to organizations.

Following the resource-based view and literature review as mentioned above, and in this research, continuous organizational improvement investment is defined as the firm's ability to manage accumulation cost information for ongoing activity aimed at raising the level of organization-wide performance through focused incremental changes in quality control circle operations (Talib and Rahman, 2010; Mahapatra and Khan, 2006; Juergensen, 2000). Thus, continuous organizational improvement investment has the possible potential to positively affect the consequence variables: customer acceptance, organizational excellence, market reliability, goal achievement and firm sustainability. To summarize, the hypotheses are proposed as follows:

Hypothesis 4a: Continuous organizational improvement investment will have a positive influence on customer acceptance.

Hypothesis 4b: Continuous organizational improvement investment will have a positive influence on organizational excellence.

Hypothesis 4c: Continuous organizational improvement investment willhave a positive influence on market reliability.

Hypothesis 4d: Continuous organizational improvement investment will have a positive influence on goal achievement.

Hypothesis 4e: Continuous organizational improvement investment will have a positive influence on firm sustainability.

Value Chain Creativity Budget

Value chain focus refers to the firm’s perception on the importance of each activity within and around a company to reduce costs by focusing attention on areas

needing cost reduction and providing a way to evaluate competitive cost position through the examination of product flows, information flows, and the management control of the chain (Taylor, 2005). The activities of the value chain include research and development, design, production, marketing, distribution, and finally after-sales service. These activities are supported by a set of supplementary activities of accounting, finance, human resources and information technology (Horngren, Dater and Rajan, 2012; Kaplinsky and Morris, 2000; Schmitz, 2005; Wei-Hong, 2010). Each activity in the value chain is added value from the customer perspective (Coulter and Robbins, 2009). Integrating the COQ with supply chain management can reduce the chance of a defect. Hence, it is possible to reduce the costs that may be caused due to corrections that are controlled by the other supply chain members (Ramudhin, Alzaman and Bulgak, 2008).

The value chain analysis was developed in the management accounting literature (Keivan and Simons, 2006). In applying value chain analysis, one needs to be connected with strategic cost analysis (Hergert and Morris, 1989; Riisgaard et al., 2010). Strategic cost analysis is based on understanding and analyzing the cost structure in the value chain activities. Hence a company should establish a database system to facilitate such analysis, and provide management with suitable information to use it in the process of selecting business functions, activities, strategies, and developing them to achieve and sustain competitive advantage.

Value chain creativity refers to the concept that the creativity of firms is considered as an important feature upon which any event is planned and should be regarded as a skilled achievement or an act of creativity (Brown, 2005). On this basis, it may be inferred that value creation is the goal that is important to the firm that demonstrates the ability to make economic gains (Mackay and Mckiernan, 2010). A similar definition conceptualizes value chain as a tool that enables organizations to increase competitive advantage by lowering costs or differentiating products through analysis of the distinct activities necessary for providing this product (Eades et al., 2002). In addition, creativity is the ability to create or to be original, expressive and imaginative whereas creativeness is the creative potential or the capacity to be creative (Diliello and Houghton, 2008). Further, Amabile (1983) defines creativity as the process involved in developing an idea for a new product.

This research provides that value chain creativity is on a budget because most successful companies today use operating budgets to help them in their constant effort to analysis and control operations, keep costs in line, and reduce expenses. The firms have used a budget for controlling and planning purposes and adding value to the firms (Libby and Lindsay, 2010). Budget is a key factor in organizational management because the budget is valuable to make the business achieve a certain aim and appropriate operation. The budget, which is equal to a valuable plan, gives an advantage to administration because it is an instrument of planning and operation a control. On the one hand, a budget is a planning device that helps a company set goals and that serves as a gauge against which actual results can be measured.

Previously prior research on the resource-based view, there are indicated that budget assessment can contribute to the success of the company through the benefits of data processing (Abdel-Maksoud, Dugdale and Luther, 2005). A further point is that organizations or joint ventures can create value by sharing and exchanging valuable resources in business processes throughout the value chain (Cecchini, Leitch and Strobel, 2013). This research implies that data processing about budget and creativity in the supply chain activity is a valued resource of firms based on resource-based view concepts.

Following the resource-based view and literature review as mentioned above, and in this research, value chain creativity budget is defined as the firm's ability to cost information management for determine and monitoring the allocate resource for establishing, sharing, and exchanging valuable resources in business processes to increase capacity in operate organization (Horngren, Dater and Rajan, 2012; Schmitz, 2005; Wei-Hong, 2010). Thus, value chain creativity budget has the possible potential to positively affect the consequence variables: customer acceptance, organizational excellence, market reliability, goal achievement and firm sustainability. To summarize, the hypotheses are proposed as follows:

Hypothesis 5a: Value chain creativity budget will have a positive influence on customer acceptance.

Hypothesis 5b: Value chain creativity budget will have a positive influence on organizational excellence.

Hypothesis 5c: Value chain creativity budget will have a positive influence on market reliability.

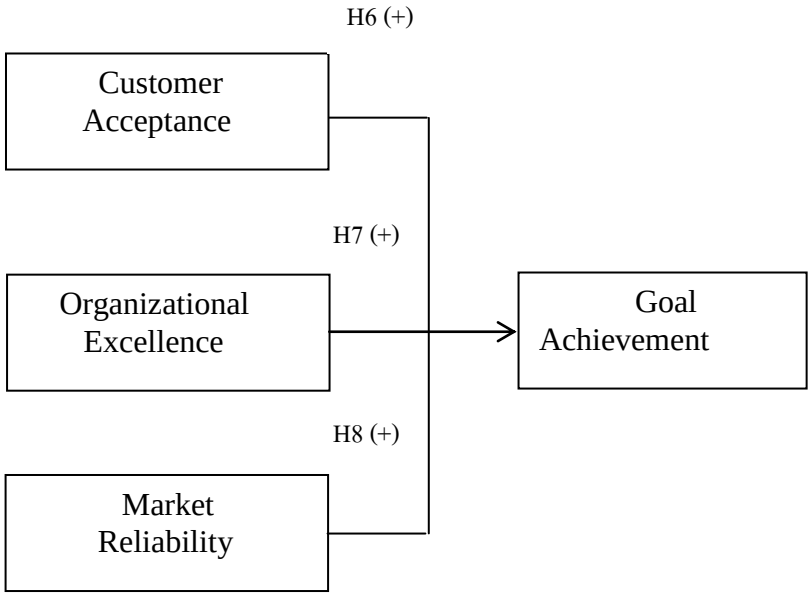
Hypothesis 5d: Value chain creativity budget will have a positive influence on goal achievement.

Hypothesis 5e: Value chain creativity budget will have a positive influence on firm sustainability.

The Effects of Customer Acceptance, Organizational Excellence, and Marketing Reliability on Goal Achievement

This section examines the influence of three mediator variables which consist of customer acceptance, organizational excellence, and marketing reliability on goal achievement. It is assumed that there are positive relationships among all of them as depicted in Figure 3.

Figure 3 The Effects of Customer Acceptance, Organizational Excellence, and Marketing Reliability on Goal Achievement



Customer Acceptance

A focus on the customer is crucial to effective quality management (Sila and Ebrahimpour, 2003; Nair, 2006). This is consistent with a concept of Flynn, Schroeder and Sakakibaral (1994) they suggested that intended of quality management to meet or exceed customer expectations. Customer acceptance is customers' perceptions of corporate capability and corporate social responsibility (Andreassen and Lindestad, 1998; Zins, 2001). The evidences seems to indicate that customer acceptance is increasingly viewed as a prime determinant of long-term financial performance in competitive markets, there are clear gaps in our knowledge of acceptance's antecedents (Kim and Lee, 2011).

Research by Kim and Lee (2011) found that the reputation, price, teaching quality, and student service quality directly influence the customer acceptance of online degree programs, and the teaching quality and price play important roles in creating customer loyalty to the online degree program. The article further states that product and service quality can crate customer satisfaction are viewed as key drivers of customer acceptance (Lai, Griffin and Babin, 2009). In addition, several studies showed the links between key drivers is customer acceptance resulting in a customer purchases continued to brand loyalty (Balabanis, Reynolds and Simintiras, 2006; Guo, Xiao and Tang, 2009). The evidence seems to be strong that customer acceptance leads to increase rates of earnings growth and increases our market share goals.

In this research, customer acceptance is defined as the firm recognizes its degree of customers' feed-back, customer satisfaction, and customer's point of view to admit a valuable product and serviceof the firms (Kim and Lee, 2011; Limpsurapong and Ussahawanitchakit, 2011). Based on the literature reviewed above, this implies that the more customer acceptance can contribute to the goal achievement. In summarize, the hypothesis is proposed as follows:

Hypothesis 6: Customer acceptance will have a positive influence on goal achievement.

Organizational Excellence

The relationship between TQM practices and organizational excellence has been investigated by many authors. For example, Sharma and Kodali (2008) reviewed 28 models, awards, and frameworks for the purpose of comparative analysis to identify elements of TQM. The finding of their research is a framework of TQM elements of manufacturing excellence sustainability. Moreover, TQM excellence is regarded as a fundamental criterion for achieving manufacturing excellence. Excellence is redefined as the ability or capacity of one performance variable to affect or influence the other performance variables in an organization (Antony and Bhattacharyya, 2010). According to Hillman (1994), assessment of excellence is the process of evaluating an organization against a model for continuous improvement in order to highlight what has been achieved and what needs improving.

Excellence can be achieved by meeting or exceeding the expectations of all stakeholders. Nonetheless, pursuing excellence keeps companies on right track to achieve their goals and mission. More important, companies today face incredible pressure to continually improve the product quality while simultaneously reducing cost, remain flexible, to meet short lead time delivery, obsolete legal, environmental and social requirements (Fok-Yew and Ahmad, 2014). Darling and Beebe (2007) indicate that the primary bases upon which an entrepreneurial organization is considered to be excellent revolving around four primary elements: care of customers, constant innovation, committed people and management leadership.

Previous research has found the importance of organizational excellence regarding organizational performance. Further, organizational excellence helps managers differentiate in a better way than organizational performance (Antony and Bhattacharyya, 2010). This relationship has been investigated by Al-Dhaafri, Yusof and Al-Swidi (2013) they found that organizational excellence has a positive and significant effect on organizational performance. Thus, it can be claimed that organizational excellence has a positive and significant effect on organizational performance.

The ability to achieve goals of the business depends to a large extent on how to manage available resources in a constantly, rapidly-changing environment (Ahmed and Gelaidan, 2013). The resource-based view is found appropriate, presenting internal resources as a crucial element to gaining a sustained competitive advantage and superior

performance that are operational excellence (Barney, 2001; Ferreira and Azevedo, 2007). It is suitable to increase attention as to the significance of organizational excellence involved in previous studies as one of the unique significant resources that may lead to superior performance. Therefore, this research implies that organizational excellence leads to the goal achievement of firms.

In this research, organizational excellence is defined as the firm perceives the competitive advantage of them than competitors, beyond expectations of the customers and achieves resource management on maximizing efficiency and effectiveness (Darling and Beebe, 2007; Fok-Yew and Ahmad, 2014). Based on the literature reviewed above, this implies that the more organizational excellence the more likely to achieve organizational goals. To summarize, the hypothesis is proposed as follows:

Hypothesis 7: Organizational excellence will have a positive influence a goal achievement.

Market Reliability

In system integrators and manufacturers, reliability is associated with meeting customers' expectations and requirements. This means creating a product that meets all the design requirements, identifying and defining what would prevent achieving design requirements, and taking action to prevent or minimize the likelihood of failure occurrences. Oly-Ndubisi (2012) confirmed that achieving reliability and high-quality standards are organizational capabilities with immense benefits. Further, Oly-Ndubisi also suggested that achieving high-quality standards and reliable business performance is the focus of many popular routine-based quality and management initiatives, which try to control cost and enhance customer experience and value by eliminating unnecessary variance in the qualities of products and services. The work of Tiku, Pecht and Strutt (2003) points out that the product reliability can arise from technical, business model, and ethical objectives of the organization.

Reliability is the ability of a product or system to perform as intended for a specified time in its life-cycle application environment (Vichare, Rodgers and Pecht, 2004). Reliability becomes a tool of ethical organizational design where the designed for functions include the goal of making ethical decisions (Husted, 1993). Reliability is the ability to perform the promised service consistently, dependably, and accurately.

Reliability refers to the consistency and dependability of a company's performance (Parasuraman, Zeithaml and Berry, 1988). Reliability has often been cited as the most important dimension in assessing the service quality and therefore a fundamental requirement for businesses to compete in the marketplace (Cook et al., 2002). According to researched above, quality management and most effective of firms it was remembered of the market, also has the trust of those involved regularly. In the marketing context, marketperformance is the result of market strategy to customer, marketplace, and reputationbenefits for the organization (Hooley et al., 2005).

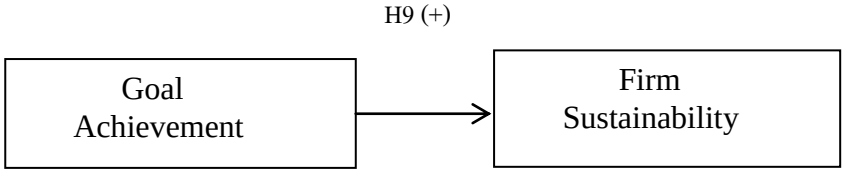
In this research, market reliabilityis defined as the firm recognizing its levels of expressive beliefs, trust, dependability and attitudes about the acceptance in the operation of the firm from outside agencies, community, society, public, and investors (Parasuraman, Zeithaml and Berry, 1988; Vichare, Rodgers and Pecht, 2004). Based on the literature reviewed above, this implies that the more market reliabilitythe more likely to achieve organizational goals. To summarize, the hypothesis is proposed as follows:

Hypothesis 8: Marketing reliability will have a positively influence on goal achievement.

The Effects of Goal Achievement on Firm Sustainability

This section examines the influence of goal achievement and firm sustainability. It is assumed that there are positive relationships among all of them as depicted in Figure 4.

Figure 4 The Effects of Goal Achievement on Firm Sustainability



Goal Achievement

Goal achievement refers to what is shown in the final process operational or have been as a result of ability of the firm to achieve its objectives, mission, vision, policies, and strategies (Zaccaro and Klimoski, 2011). Goal achievement is focused on the company's ability to generate opportunities through business process continues to increase their profits, market share, and competitive in the future (Modi and Mishra, 2011; Sampattikorn and Ussahawanitchakit, 2012). Goal achievement is pushed for the development and determine of organizational capabilities, such as market orientation and innovation to achieve the organization's operations (Che-Ha, Mavondo and Mohd-Said, 2014). Based on the earlier mentioned above, it can be claimed that goal achievement is the result of organization performance management can be applied effectively. The organization used to control and evaluate the operations to achieve goals that are important to the success of the organization.

Goal achievement depends on many factors. Although it is difficult to determine which factors are most important. The support of the administration and management practices in order to promote and encourage employees to get to know and understand the mechanisms of the passage in the organization to achieve their goals will result in the creation of effectiveness goal achievement (Pansuppawatt and Ussahawanitchakit, 2011). The factors contributed to the implementation of the strategy to achieve their goals more effectively, those factors also include vision, mission, strategy, and goal of the organization (Hunt and Madhavaram, 2006). Therefore, it may be concluded that goal achievement is based on the strategically positioned of the executive and the ability to follow the strategy of a member of organizations. This research’s attempt is made to link goal achievement of manufacturing firms that can build knowledge, innovation, and assets causing most beneficial to organizations continued and sustainable.

In this research, goal achievement is defined as the firm perceiving the operational outcome which consist of both financial and non-financial outcome, include achieving organizational purposes, organization’s mission, vision, return on stakeholder, increases productivity and profitability, and markets share (Sampattikorn, Ussahawanitchakit and Boonlua, 2012; Modi and Mishra, 2011). Based on the literature reviewed above, this implies that the more goal achievement can contribute to sustainability of the firm. To summarize, the hypothesis is proposed as follows:

***Hypothesis 9: Goal achievement will have a positive influence on firm sustainability*.**

Firm sustainability

To improve the sustainability strategy implementation process, managers should carefully identify and measure key performance drivers included among the various inputs and processes (Epstein, Buhovac and Yuthas, 2010). However, the sustainability strategy is only a minimum enabler for improved sustainability performance. Nidumolu, Prahalad and Rangaswami, (2009) indeed mentioned that the quest for sustainability is already starting to transform the competitive landscape, which will force companies to change the way they think about products, technologies, processes, and business models. Sustainability should go beyond measures of environmental impact to include economic and social elements (King, 2008). According to research from the perspective of sustainability in the business case consists in asking companies can promote economic sustainability along with the social and environment.

Extending the definition offirm sustainability was as development which meets the needs of the present without compromising ability of future generations to meet their own needs. With Terms of vision, visibilities, identities, techniques of government and legitimate knowledge forms (Russell and Thomson, 2008). In addition, firm sustainability was the business approaches by firms to consider creating opportunity for businesses to improve their profitability, competitiveness, and market share for future (Mohamed, 2008). Therefore, the successfully of the sustainability strategy depend on the drivers of the model include: external context, internal context, business context, and human and financial resources.

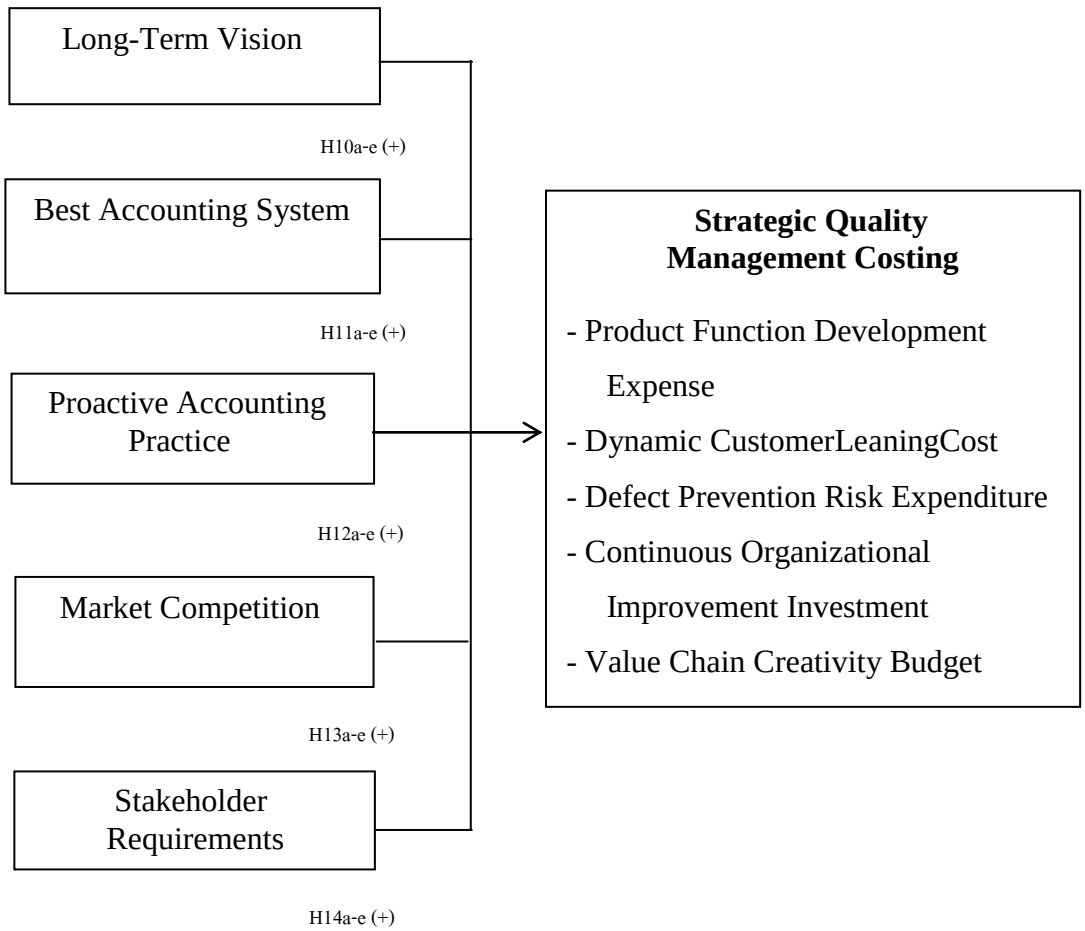
Based on previous research about firm sustainability, it is consistent with the resource-based view theorists which describe that the internal resources of firm is its ability to combine the firm's survival and sustainable development to achieve superior performance (Barney, 1991). And contingency theory points out to explain that the phenomenon of antecedent is the internal factors and the external factors influences on sustainability strategy. The work of Egbunike, Ogbodo and Onyali (2014) referred that the sustainability performance measurement is a multi-faceted activity, requiring managers to implement strategic techniques capable of capturing information from diverse areas.

In this research, firm sustainability is defined as firm's perception of the sustainable development in firm performance views are increasing innovation, knowledge, and assets for the benefit of the organization continued, survive in business operation, business stability, and employee participation awareness, which meets the needs of the present and future growth (Egbunike, Ogbodo and Onyali, 2014; Mohamed, 2008; Nidumolu, Prahalad and Rangaswami, 2009).Therefore, to examine emergence of new cost accounting practices to supports the firm sustainability. This research is to propose a conceptual framework that explains the strategic quality management costing (SQMC), and contextualize provoke by firm sustainability issues.

Antecedents of Strategic Quality Management Costing

This section explains the influences of five antecedents (long-term vision, best accounting system, proactive accounting practice, market competition, and stakeholder requirements) on five dimensions of SQMC which include product function development expense, dynamic customer learning cost, defect prevention risk expenditure, continuous organizational improvement investment**,** and value chain creativity budget presented in Figure 5 below.

Figure 5 The Effects of Antecedents on Strategic Quality Management Costing



Long-Term Vision

There has been some research on the importance of vision as well as its construction to effective organizational outcomes. Thus, vision focuses on what is actually important for organizations including future foresight with a core purpose (Conger, 1998). Moreover, vision can provide effort for organizational change (Belasco and Stayer, 1994). It is the business vision, which is the general purpose of the organization, preferably replicating the potentials and value of the major stakeholders of the business organization (Jackson and Schuler, 1995). It is obvious that vision is a basic factor which reveals a clear concept of the present situation and the future objectives, and exhibits the objective of a business.

The most essential use of vision for organizations is that it leads to methods for attaining goals and objectives (Ozmen and Sumer, 2011). In addition, Revilla and Rodriguez (2011) describe vision in terms of something that helps clarify the direction in which to product development. Furthermore, the vision positively influences the outcomes of the organization such as motivating employees to work hard, commitment of the organization, and corporate reputation (Fanelli, Misangyi and Tosi, 2009).
As described above, it might be stated that the vision is a future image of the business. The work of Komala (2012) suggests that top management long-term vision has positively influences on strategic managerial accounting capability. Thus, long-term vision can be implicit as the anticipated or planned future state of an organization in terms of its important objectives and strategic direction. The long-term vision describes how the organization would like the world to be, in which it operates.

In this research, long-term vision is defined as the goals and direction of firms for organize and manage activities achieve the future objective which reveals clear conception through policies, regulations, and principles (Ozmen and Sumer, 2011). Based on the above discussion, long-term vision has the potential possibility to enhance to product function development expense, dynamic customer learning cost, defect prevention risk expenditure, continuous organizational improvement investment, and value chain creativity budget. To summarize, the hypotheses are proposed as follows:

Hypothesis 10a: Long-term vision will have a positive influence on product function development expense.

Hypothesis 10b: Long-term vision will have a positive influence on dynamic customer learning cost.

Hypothesis 10c: Long-term vision will have a positive influence on defect prevention risk expenditure.

Hypothesis 10d: Long-term vision will have a positive influence on continuous organizational improvement investments.

Hypothesis 10e: Long-term vision will have a positive influence on value chain creativity budget.

Best Accounting System

Best accounting system refers to a suitable accounting system process, technology and an organized set of manual and computerized accounting methods, procedures, and controls establishment to gather, record, classify, analyze, summarize interpret, and present accurate and timely accounting information for management decisions (Zhang and Zhou, 2007). The process of accounting system is designed to provide reasonable assurance regarding reliability of financial reporting and preparation of financial statements for external purposes follow on generally accepted accounting principles (Singer and You, 2011). On the other hand, that is the system that is capable of the system to be linked to the accounting system stability, ease of use, speed, easy maintenance and effective communication to satisfaction of the users (Harzallah and Vernadat, 2002).

The information produced by the accounting system provides an explanation for the usage of resources and operations (Kara and Kilic, 2011). Moreover, Feng and Li (2009) reported that best accounting system activity provides guidance, recommendations and value-added supports in order to help decision-making, firm success and continuous improve of the firm. In light of this information, best accounting system influences product cost accuracy, effective cost control, cost information credibility and cost reporting usefulness (Williams and Seaman, 2002). In addition, Mackelprang and Nair (2010) demonstrate that the structure of the organization will

have to respond the obligations and accounting system as part of the organizational structure.

As above, the evidence seems to be strong that the best accounting system can provide value-added information for decision-making, management and control activities to achieve the objectives. In this research, best accounting systemis defined as the collect, classify and report associate a financial data by designed,continuous developmentand improvement to obtain quality information, reliability, and compliance with business strategy (Feng and Li, 2009; Zhang and Zhou, 2007). Based on the above discussion, best accounting system has the potential possibility to enhance to product function development expense, dynamic customer learning cost, defect prevention risk expenditure, continuous organizational improvement investment, and value chain creativity budget. To summarize, the hypotheses are proposed as follows:

Hypothesis 11a: Best accounting system will have a positive influence on product function development expense.

Hypothesis 11b: Best accounting system will have a positive influence on dynamic customer learning cost.

Hypothesis 11c: Best accounting system will have a positive influence on defect prevention risk expenditure.

Hypothesis 11d: Best accounting system will have a positive influence on continuous organizational improvement investment.

Hypothesis 11e: Best accounting system will have a positive influence on value chain creativity budget.

Proactive Accounting Practice

The accounting practice refers to the accounting process to collect, transform process, reporting, and disseminate reporting to users (Hakansson and Lind, 2004). Generally, accounting practice presents accounting information to organization for

management and it is a tool for resource management efficiently, and support appropriate decision-making. Moreover, accounting practice has always been an information system designed to collate, analyze, and disseminate knowledge in a way that is useful to various decision makers (Howieson, 2003). Besides, accounting practice has disciplinary and calculative practice (Quattrone, 2009), such as assessed cost, resource and expense allocation method, and budgets. Given this evidence, it can be seen that the accounting practice is the most important for professional.

This research highlights that the accounting practices does not only limit to provision of the financial report, but also to support information in other areas, such as in shaping corporate strategy (Andersson et al., 2008). In additional, in a study of Chandler and Daems (1979) shows that the accounting practice supports various objects to subunits of organizational, and event to be explained and evaluated performance in past, present and future. Based on these rationales, the management accountants need to become proactive internal business consultants, skilled in the design and implementation of appropriate cost management systems, and eager to become involved in business decision processes (Evans and Ashworth, 1996).

However, Coad (1999) views that management accountants can indeed live up to demands for more proactive involvement and role innovation if they possess or can develop a learning goal orientation. Whereas, Burms and Scapens (2000) claim that management accounting is changing, despite the rapidly changing technological and organizational environment in recent years. He highlighted on the new emergence, more ‘proactive’ management accountants who increasingly becoming part of management team within a business process. Similarly, Lodhia (2003) suggest that a more proactive stance is required from the national accountancy profession, academics, and the private and public sectors.

In this research, proactive accounting practice is defined as the accounting process to collect, transform process, and disseminate reporting that aims to reflect economic events and performance of the firm for forward-looking, opportunity-seeking and both current and future (Andersson et al., 2008; Howieson, 2003). Based on the above discussion, proactive accounting practice has the potential possibility to enhance to product function development expense, dynamic customer learning cost, defect prevention risk expenditure, continuous organizational improvement investment, and value chain creativity budget. To summarize, the hypotheses are proposed as follows:

Hypothesis 12a: Proactive accounting practicewill have a positive influence onproduct functiondevelopment expense.

Hypothesis 12b: Proactive accounting practice will have a positive influence on dynamic customer learning cost.

Hypothesis 12c: Proactive accounting practice will have a positive influence on defect prevention risk expenditure.

Hypothesis 12d: Proactive accounting practice will have a positive influence on continuous organizational improvement investment.

Hypothesis 12e: Proactive accounting practice will have a positive influence on value chain creativity budget.

Market Competition

The concept of competition in the markets identified seven factors (1) price; (2) product; (3) distribution channel; (4) technology; (5) package deal; (6) number of competitors; and (7) government policy (Hoque, Mia and Alam, 2001). In perspective of the contingency theory literature indicates that each organization's operating environment comprises a set of factors (contingencies) and market competition is one such factor (Abdel-Kader and Luther, 2008). For examples of other such factors include size, environmental uncertainty, technology, and strategy (Abdel-Kader and Luther, 2008; Inman et al., 2011; Kennedy and Widener, 2008; Mackelprang and Nair, 2010). As above business environment it is increasingly difficult for companies to maintain a competitive advantage and treatment survival of the organization.

Additional research has developed further reason that the impact of competitors and customers depend on environmental factors such as trends of market growth, energy buyers and the intensity of competition (Gatignon and Xuereb, 1997; Voss and Voss, 2000). Furthermore, Fahy et al. (2000) consider that global market is extremely diverse in terms of economic development, consumption patterns and economic infrastructure on direction of the market may have a different role in each country. In other words,

Zhou1 et al. (2007) experiment showed that a variety of market environments significant impact of the strong market performance depends on the different environmental circumstances. Therefore, increasing competitiveness is an input-output company resource and changes the value to the customer (Jirawuttinunt and Ussahawanitchakit, 2011).

Moreover, companies should respond to the pressures of change through implementation by accepting the changes, both internal and external to the organization (Rabinovich, Dresner and Evers, 2003). Due to the intensity of the competitive environment, this resulted in an increased focus on strategies to make a difference, to influence the product model and how the company's operations including account management, advanced (Baines and Langfield, 2003). From these studies emerge the evidence that market competition is business environmental which the company must give priority.

In this research, market competition is defined as 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 (Hoque, Mia and Alam, 2001; Voss and Voss, 2000). Based on the above discussion, market competition has the potential to a product function development expense, dynamic customer learning cost, defect prevention risk expenditure, continuous organizational improvement investment, and value chain creativity budget. To summarize, the hypotheses are proposed as follows:

Hypothesis 13a: Market competition will have a positive influence on product function developmentexpense.

Hypothesis 13b: Market competition will have a positive influence on dynamic customer learningcost.

Hypothesis 13c: Market competition will have a positive influence on defect prevention risk expenditure.

Hypothesis 13d: Market competition will have a positive influence on continuous organizational improvement investment.

Hypothesis 13e: Market competition will have a positive influence on value chain creativity budget.

Stakeholder Requirements

A wide definition of "stakeholders" can be found in the standard ISO/IEC 15288 (2002) which states that the stakeholders are interested parties having the right to share or claim in a system or in its possession in a manner that responds to the needs of individuals and or expectations. Further Foley (2005) has stated that a stakeholder is seen as an interested party that has both the means of bringing requirements to attention and for taking actions if their requirements are not met. As earlier mentioned indicated that general category constituencies are such as shareholders, financial community, activists groups, government, political groups, customer, employees etc. Moreover, stakeholders include, but are not limited to, users, supporters, developers, producers, trainers, maintainers, disposers, purchaser and supplier organizations, regulatory bodies and members of society.

In the other hand, Lee and Hutchison (2005) hypothesize that many internal and external stakeholders are showing a great and increasing interest in the accounting performance of an organization. Internal stakeholders such as employees and managers might be affected by workforce within the environmental work. External stakeholders include communities affected by investors, creditors, government agencies, shareholders, investors, customers, and suppliers. Whereas, Konrad et al. (2006) divided stakeholders into five groups, namely provider of capital, internal stakeholders, external stakeholders, civil society not organized, and civil society organized.

In fact, the mutual trust between the organization and its stakeholders as a major driving force behind the success of the long-term sustainability (Jones, 1995). Moreover, an organization can generate motivation to a participation of stakeholders in management may be achieved through implementation of social responsibility and disclosure (Gelb and Stawer, 2001). Thus, it has a pressure of stakeholders' influences shaping a firm's decision (Eiadat et al., 2008). The extent an organization's responsibilities

are framed within the context of an organization's relationship with its stakeholders (Neville, Bell and Menguc, 2005). Likewise, stakeholder management affects transparent financial reporting (Mattingly, Harrast and Olsen, 2009). Stakeholders were used to create a new model that contributes to improving a quality of corporate information by providing not more, but better information through increased intelligibility of overall information, benefiting both the firm and its board array of stakeholders (Laud and Schepers, 2009).

In this research, stakeholder requirements are defined as the degree of an expectation, demands, and regulations of customer, regulators, public, and social which they have pressure in operations of a firm both direct and indirect (Foley, 2005; Lee and Hutchison, 2005). Based on the above discussion, stakeholder requirement has a potential possibility to affect on product function development expense, dynamic customer learning cost, defect prevention risk expenditure, continuous organizational improvement investment, and value chain creativity budget. To summarize, the hypotheses are proposed as follows:

Hypothesis 14a: Stakeholder requirements will have a positive influence on product functiondevelopment expense.

Hypothesis 14b: Stakeholder requirements will have a positive influence on dynamic customer learning cost.

Hypothesis 14c: Stakeholder requirements will have a positive influence on defect prevention risk expenditure.

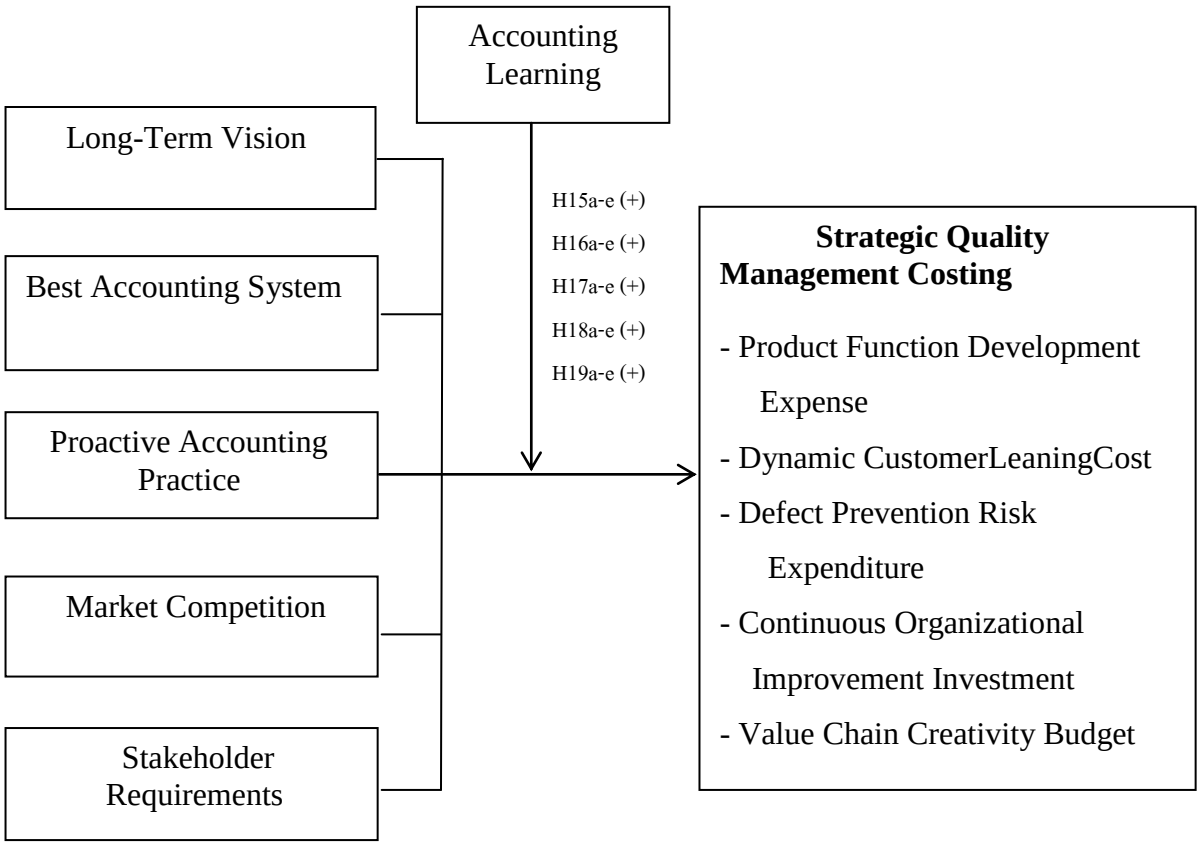
Hypothesis 14d: Stakeholder requirements will have a positive influence on continuous organizationalimprovement investment.

Hypothesis 14e: Stakeholder requirements will have a positive influence on value chain creativity budget.

Moderating Effects of Strategic Quality Management Costing

This section explains the influences of the moderator effect which consists of accounting learning. Each is enumerated as follows: accounting learning as a moderating effect of five antecedents (long-term vision, best accounting system, proactive accounting practice, market competition, and stakeholder requirements) on the five dimensions of SQMC (product functional development expenditure, dynamic customer leaning cost, defect prevention risk expenditure, continuous organizational improvement investment, and value chain creative budget) as presented in Figure 6.

Figure 6 The Roles of Accounting Learning as a Moderator



Accounting Learning

A whole principle of accounting devices can play an active part in realizing a successful strategy (Mouritsen and Kreiner, 2003). While in current the accounting practices emerge in the context of various organizational, political, social and state

contexts. Therefore, firms must have implemented learning about accounting trends to improve executive competency and practices because decision-making processes based on information, knowledge, and learning are designed to reduce uncertainty in decision making leading to goal achievement. Following, Chartered Institute of Management Accountants views management accounting as an integral part of management which requires the identification, generation, presentation, interpretation, and use of information relevant to business strategy.

As above, management accounting was placed them the several functions and a broader scope working cover the entire implementation of the organization. Of course, these roles will require knowledge, expertise, and experience of the operators to account those involved in the organization at all levelsand the needs to improve processes continuously. Thus, firms should give priority on learning accounting of staff, in order to provide the accounting system can effectively support corporate development and consistent with the change of an environment that will occur.

Accounting learning is a very significant integral part of accounting practices that is the activity of the creation and use of knowledge in order to strengthen the competitive advantage (Damanpour, 1991). According to Eddy, Hall and Robinson (2006) pointed out that the enhancement of learning for employees in the organization is important and the ability of employees to learn, as a result, the firm will have a competitive advantage. Learning is the process of developing the knowledge and experience of the staff together to increase the ability of the firm (Jimenez and Valle, 2011). The benefits of learning related to the optimization of the performance of the organization (Bontis, Crossan and Hulland, 2002). According to Calantone, Cavusgil and Zhao (2002) that the firm has determined that the learning activities are the activities of the organization to create and use knowledge in order to strengthen competitive advantage and learning is highly significant on firm performance.

Prior research has studied the organizational learning perspective to examine relevant types of management accounting information required by advanced manufacturing technology (AMT) for attaining improved production performance. In a study of Choe (2004) investigated a positive correlation between the advanced manufacturing technology level and the amount of management accounting information. Besides,

the result indicates that facilitators of organizational learning have a moderating impact on the relationship between provision of information and performance improvement. Therefore, accounting learning refers to competency in learning from past experience in order to gain knowledge, understanding and gain expertise about accounting process, accounting standards, occupational skills, regulation and laws which lead to greater effectiveness of the organization.

Knowledge management behavioral practices related to the degree that the accounting learning because knowledge management is a process of knowledge acquisition, knowledge creation, document literacy, knowledge transfer, and application of knowledge plays a key role in the implementation of enterprise solutions and exploiting opportunities (Jantunen, 2005; Sambamurthy and Subramani, 2005). In order to enhance their firm performance, the firm incorporates to improve the transfer ability of best practices of business. The firm's ability to learn and understand how to perform the accounting, legal and accounting standards are related to circumstances that have changed and may affect operational efficiency.

In this research, accounting learning is defined as the establishing the knowledge, recognition, and skills associated with accounting by training, experience, and knowledge management to the improvement of accounting practices (Damanpour, 1991; Jantunen, 2005; Jimenez and Valle, 2011). Based on the above discussion, accounting learning will positively moderate the relationships among strategic quality management costing (product function development expense, dynamic customer learning cost, defect prevention risk expenditure, continuous organizational improvement investment, and value chain creativity budget) and antecedent variables (long-term vision, best accounting system, proactive accounting practice, market competition and stakeholder requirement).To summarize, the hypotheses are proposed as follows:

Hypothesis 15a: The relationship between long-term vision and product function development expense will be positively moderated by accounting learning.

Hypothesis 15b: The relationship between long-term vision and dynamic customer learning cost will be positively moderated by accounting learning.

Hypothesis 15c: The relationship between long-term vision and defect prevention risk expenditure will be positively moderated by accounting learning.

Hypothesis 15d: The relationship between long-term vision and continuous organizational improvement investment will be positively moderated by accounting learning.

Hypothesis 15e: The relationship between long-term vision and value chain creativity budget will be positively moderated by accounting learning.

Hypothesis 16a: The relationship between best accounting system and product function development expense will be positively moderated by accounting learning.

Hypothesis 16b: The relationship between best accounting system and dynamic customer learning cost will be positively moderated by accounting learning.

Hypothesis 16c: The relationship between best accounting system and defect prevention risk expenditure will be positively moderated by accounting learning.

Hypothesis 16d: The relationship between best accounting system and continuous organizational improvement investment will be positively moderated by accounting learning.

Hypothesis 16e: The relationship between best accounting system and value chain creativity budget will be positively moderated by accounting learning.

Hypothesis 17a: The relationship between proactive accounting practice and product function development expense will be positively moderated by accounting learning.

Hypothesis 17b: The relationship between proactive accounting practice and dynamic customer learning budget will be positively moderated by accounting learning.

Hypothesis 17c: The relationship between proactive accounting practice and defect prevention risk expenditure will be positively moderated by accounting learning.

Hypothesis 17d: The relationship between proactive accounting practice and continuous organizational improvement investment will be positively moderated by accounting learning.

Hypothesis 17e: The relationship between proactive accounting practice and value chain creativity budget will be positively moderated by accounting learning.

Hypothesis 18a: The relationship between market competition and product function development expense will be positively moderated by accounting learning.

Hypothesis 18b: The relationship between market competition and dynamic customer learning budget will be positively moderated by accounting learning.

Hypothesis 18c: The relationship between market competition and defect prevention risk expenditure will be positively moderated by accounting learning.

Hypothesis 18d: The relationship between market competition and continuous organizational improvement investment will be positively moderated by accounting learning.

Hypothesis 18e: The relationship between market competition and value chain creativity budget will be positively moderated by accounting learning

Hypothesis 19a: The relationship between stakeholder requirements and product function development expense will be positively moderated by accounting learning.

Hypothesis 19b: The relationship between stakeholder requirements and dynamic customer learning budget will be positively moderated by accounting learning.

Hypothesis 19c: The relationship between stakeholder requirements and defect prevention risk expenditure will be positively moderated by accounting learning.

Hypothesis 19d: The relationship between stakeholder requirements and continuous organizational improvement investment will be positively moderated by accounting learning.

Hypothesis 19e: The relationship between stakeholder requirements and value chain creativity budget will be positively moderated by accounting learning

Summary

This chapter has detailed the literature review, the two theories that include the contingency theory and the resource-based view, the conceptual framework, and the proposed set of nineteen testable hypotheses. Strategic quality management costing (SQMC) is the main concern of this research that is focusedon its antecedents (long-term vision, best accounting system, proactive accounting practice, market competition, and stakeholder requirements) and consequences (customer acceptance, organizational excellence, and market reliability). Furthermore, this research also examines the moderating effects of accounting learning relationship as summarized in Table 2.
The next chapter presents the sample selection and data collection procedure. Then, the results of measurements testing (validity and reliability), and statistics are also provided.

Table 3 Summary of Hypothesized Relationships

Hypotheses	Description of Hypothesized Relationships
H1a-e	The product function development expense will have a positive influence on (a) customer acceptance (b) organizational excellence (c) market reliability (d) goal achievement, and (e) firm sustainability.
H2a-e	The dynamic customer learning will have a positive influence on (a) customer acceptance (b) organizational excellence (c) market reliability (d) goal achievement, and (e) firm sustainability.
H3a-e	The defect prevention risk expenditure will have a positive influence on (a) customer acceptance (b) organizational excellence (c) market reliability (d) goal achievement, and (e) firm sustainability.
H4a-e	The continuous organizational improvement investment will have a positive influence on (a) customer acceptance (b) organizational excellence (c) market reliability (d) goal achievement, and (e) firm sustainability.
H5a-e	The value chain creativity budget will have a positive influence on (a) customer acceptance (b) organizational excellence (c) market reliability (d) goal achievement, and (e) firm sustainability.
H6	The customer acceptance will have a positive influence on goal achievement.
H7	The organizational excellence will have a positive influence on goal achievement.
H8	The market reliability will have a positive influence on goal achievement.
H9	The goal achievement will have a positive influence on firm sustainability.
H10a-e	The long-term vision will have a positive influence on (a) product function development expense (b) dynamic customer learning cost (c) defect prevention risk expenditure (d) continuous organizational improvement investment, and (e) value chain creativity budget.

Table 3 Summary of Hypothesized Relationships (continued)

Hypotheses	Description of Hypothesized Relationships
H11a-e	The best accounting system will have a positive influence on (a) product function development expense (b) dynamic customer learning cost (c) defect prevention risk expenditure (d) continuous organizational improvement investment, and (e) value chain creativity budget.
H12a-e	The proactive accounting practice will have a positive influence on (a) product function development expense (b) dynamic customer learning cost (c) defect prevention risk expenditure (d) continuous organizational improvement investment, and (e) value chain creativity budget.
H13a-e	The market competition will have a positive influence on (a) product function development expense (b) dynamic customer learning cost (c) defect prevention risk expenditure (d) continuous organizational improvement investment, and (e) value chain creativity budget.
H14a-e	The stakeholder requirements will have a positive influence on (a) product function development expense (b) dynamic customer learning cost (c) defect prevention risk expenditure (d) continuous organizational improvement investment, and (e) value chain creativity budget.
H15a-e	The relationship between long-term vision and (a) product function development expense (b) dynamic customer learning cost (c) defect prevention risk expenditure (d) continuous organizational improvement investment, and (e) value chain creativity budget will be positively moderated by accounting learning.
H16a-e	The relationship between best accounting system and (a) product function development expense (b) dynamic customer learning cost (c) defect prevention risk expenditure (d) continuous organizational improvement investment, and (e) value chain creativity budget will be positively moderated by accounting learning.

Table 3 Summary of Hypothesized Relationships (continued)

Hypotheses	Description of Hypothesized Relationships
H17a-e	The relationship between proactive accounting practice and (a) product function development expense (b) dynamic customer learning cost (c) defect prevention risk expenditure (d) continuous organizational improvement investment, and (e) value chain creativity budget will be positively moderated by accounting learning.
H18a-e	The relationship between market competition and (a) product function development expense (b) dynamic customer learning cost (c) defect prevention risk expenditure (d) continuous organizational improvement investment, and (e) value chain creativity budget will be positively moderated by accounting learning.
H19a-e	The relationship between stakeholder requirements and (a) product function development expense (b) dynamic customer learning cost (c) defect prevention risk expenditure (d) continuous organizational improvement investment, and (e) value chain creativity budget will be positively moderated by accounting learning.

CHAPTER III

RESEARCH METHODS

The previous chapter presented a review of prior studies and relevant literature detailed in strategic quality management costing (SQMC) and other variables in the conceptual model, the theoretical foundations, the definition of all variables, and the hypotheses development. To understand the research methods, this chapter details them in four parts as follows. Firstly, the sample selection and data collection procedures, including the population and sample, the data collection, and the test of non-response bias are detailed. Secondly, the variable measurements are developed. Thirdly, the instrumental verification including the tests of validity and reliability, and the statistical analysis including the regression equations are presented. Finally, the table summarizing the variable definitions and operational definitions is included.

Sample Selection and Data Collection Procedure

Population and Sample

The population is firm members of the ISO 9000 manufacturing firms in Thailand from the database of the Thai Industrial Standards Institute (TISI) of the Ministry of Industry in Thailand, totaling 1,088 companies as of April 2016. The ISO 9000 manufacturing firms are interesting to investigate for several reasons.

Firstly, the Thai manufacturing has had a substantial growth in the last three decades and has established itself as the biggest income earner for the country (Das, Paul and Swierczek, 2008). During the 1990s, the main emphasis of Thailand's manufacturing industry was on implementing ISO 9000 standards. The Thailand Institute of Industry Standard reported that the number of ISO-9000 certified firms has increased dramatically since 1987. By January 2015, 3,106 companies were ISO 9000 certified (Thai Industrial Standards Institute: Website). Currently, the Thailand Productivity Institute (2016) organizes training and serves as a resource center to further develop quality practices (Thailand Productivity Institute: Website). Das,

Kumar and Kumar (2011) suggested that competition in the global market requires Thai manufacturing companies to improve the standards of quality management. While an increasing number of Thai manufacturing companies have adopted formal quality management systems (e.g., ISO 9000 series standards). In addition, many multinational companies in Thailand should increase awareness of quality practices, implying that most QM practices will be found in Thai industry.

Secondly, Thailand's focus should be on the development of quality management, with respect to the International Standard Organization (ISO). Industrial businesses around the world have adopted many of the models from the ISO as their guidelines for organizational adaptation and expansion towards international markets and global markets. Quality management is important to Thailand, primarily because it is one of the key strategies of world-class manufacturing (Adam et al., 1997; Steinbacher and Steinbacher, 1993) and Thailand's ability as a developing economy to engage in more global trade that requires improved quality performance (Krasachol, Willey and Tannock, 1998).

Finally, it is a manufacturing business that focuses on quality management to create a competitive advantage that has interesting issues to investigate in this research. Previous research comes into QM implementation of manufacturing firm in Thailand context. Laohavichien, Fredendall and Stephen (2011) examine the effects of leadership behaviors on quality management (QM) practices and their effects on quality performance of manufacturing companies in Thailand. Reis and Pati (2007) studied QM practices in Thai manufacturing and services and ranked eight of these from the highest to the lowest level of implementation as: training, employee relations, quality data and reporting, supplier QM, top management and quality policy, process management/ operating procedures, role of quality department/personnel, and product/service design.Therefore, the ISO 9000 manufacturing companies in Thailand are considered suitable to be selected as the population for this research.

The source of the data utilized in this research is collected through a select list of 1,088 companies. The sample was selected by using Yamane (1973) to calculate the sample size. This formula was used to calculate the sample sizes for a population was 95% confidence level, and 5% sample error was considered and calculation of sample size is proposed as follows:

$$\text{Formula} \quad n = \frac{N}{1+ N (e)^2}$$

Where:

n = Sample size

N = Number of population

e = Acceptable error (0.05)

Thus, $n = (1{,}088)/ [1+(1{,}088 \times (0.05)^2)]$

$n = 292$

The sample size was calculated to be 292 firms. According to Aaker, Kumar and Day, (2001) the acceptable response rate of social science research will accept 20% or greater response rate for a questionnaire mailing survey without an appropriate follow-up procedure. Therefore, the formula was used to calculate the sample size to send questionnaires by using the acceptable response rate for a population as follows:

n = Sample size / accepted response rate

= 292 x 100 /20

= 1,460

In this research, 292 required respondents was considered as 20% response rate. Thus, the sample size for the mail survey should equal 1,460. Nevertheless, the number of ISO 9000 manufacturing companies in Thailand population was only 1,088 firms. Thus, it was necessary to determine the 1,088 population as the sample size for mail survey in this research.

The key informant approach enables researchers to give attention to information about firms. Key informants must give the real of information to identify and truly understand the current existing business. Thus, the appropriate key informant of this research is the accounting executive of each firm. There are three reasons for choosing an accounting executive. First, the accounting executive is considered most likely to understand the cost accounting and is assumed to be the key person responsible for implementation of cost. Second, 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 executive is to report, coordinate, and deal directly with the CEO in management on meters such as strategic policy, planning and controlling activities of a firm.

Data Collection

This dissertation employs a questionnaire survey as the instrument for collecting data. The questionnaire survey is a widely-used method for large-scale data collection in behavioral accounting research because a representative sample can be collected from the chosen population in a variety of locations at a low cost (Neuman, 2006; Kwok and Sharp, 1998). Furthermore, this tool is suitable because a mail survey helps: 1) a greater number of firms at a lower-cost, 2) and the elimination or reduction of bias (Dillman, 1991; Snyder and Elliard, 2012).The final questionnaires were mailed out on June 25, 2016, to manufacturing firms in Thailand accompanied by a cover letter outlining the rationale and aims of this research.

Table 4 Detail of Questionnaire Mailing

Details	**Number**
Questionnaire mailed	1,088
Undelivered Questionnaires	38
Successful Questionnaires mailed	1,050
Received Questionnaires	201
Incomplete Questionnaires	6
Complete and Usable Questionnaires	195
Response rate (195*100/1,050)	18.57%

The questionnaires were mailed directly to the accounting executive (e.g. accounting director, accounting manager) of each ISO 9000 manufacturing firm in Thailand by mail. The plan was defined to collect the data within eight weeks. During the first four weeks, questionnaires were answered and returned to the researcher. After the first four weeks, for increasing the response rate, a follow-up letter and online

questionnaire were sent to firms and e-mails of the firms after four weeks, respectively. Specifically, it was a reminder to the firms that had not yet replied to the questionnaire and asked them to cooperate in answering it. Afterward, the completed questionnaires were sent from firms to the researcher by the prepared return envelopes for ensuring confidentiality. Each package of the sent letter comprised a cover letter containing an explanation of the research, a questionnaire, and a postage-prepaid return envelope.

According to the questionnaire mailing Table 4, presents the details of the questionnaire sent and calculated response rate. The initial mailing, 1,088 were sent by mail. A 38 of the questionnaire-mail surveys were undeliverable since to the fact that some business had moved to unknown locations or discontinued operation. Removing the undeliverable from the original 1,088 mailed, the valid mailing was 1,050 number successful questionnaires mailed.Then, returned questionnaires included 117 responses in the first four weeks, and 84 more responses in the next four weeks. Thus, a total of received questionnaires included 201 responses. However, six incomplete surveys were also found and discarded. So, there were only 195 surveys which were usable for further analysis. The response rate was 18.57 percent less than 20.00 percent. The acceptance criterion for the minimum sample size is that it should never fall below five observations for each interdependent variable (Hair et al., 2010). In addition, Menon et al. (1999) indicate that average top management survey response rates are in the range of 15 to 20 percent. Thus, 195 firms are acceptable sample size for employing multiple regression analysis.

In this research, the questionnaire consists of seven parts. Part one asks for personal information such as gender, age, marital status, education level, working experience, average monthly income and working position. Part two is about the general information of the manufacturing company in Thailand such as type of business, industrial category, capital of firm, total assets of the firm number of employees, period of time in business, period of time in ISO 9000 certificate and average revenue of firm per year. Next, part three is related to evaluating SQMC which consists of product functional development expenditure, dynamic customer learning cost, defect prevention risk expenditure, continuous organizational improvement investment, and value chain creativity budget.

Part four deals with the consequences of SQMC which consist of customer acceptance, organizational excellence, market reliability, goal achievement and firm sustainability. Part five is about the antecedents of SQMC which consist of long-term vision, best accounting system, and proactive accounting practice, in addition accounting learning which plays a role as a moderator variable. Part six is about the market competition, and stakeholder requirements. Finally, part seven is an open-ended question for the recommendations of the accounting executive. This questionnaire is attached in Appendix F and G (questionnaire in the English and Thai version).

Test of Non-Response Bias

The problem with non-response is the bias or systematic distortion in a survey occurring because it cannot obtain a response from some members of the selected sample. The maximization of response rate can avert the non-response bias (Larson and Chow, 2003). A non-response bias was undertaken which involved assessing whether responses received were valid representing the entire population based on certain selected characteristics (Wallace and Mellor, 1988). To evaluate the representatives of the responses, a non-response analysis was conducted. This research verifies the potential of non-response bias and considers problems with non-responseerrors that show the difference between the respondents and non-respondents. A t-testcomparison of the demographic information of a firm such as operation capital of the firm, total assets of the firm, number of employees, the period of time in operating business, the period of time in ISO 9000 certificate, and the average revenue of the firm per year between early and late respondents was used to check the problems of non-response bias. When the results of the t-test show that no significant difference exist between early and late groups, it can be implied that there are a no non-response bias problems (Armstrong and Oventon, 1977). After verification, and finding no problems of non-response bias, this research is able to analyze the statistical results for hypotheses testing.

All 195 received questionnaires are divided into two equal groups: the first 98 responses are treated as the early respondents (the first group), and the other 97 responses are treated as the late respondents (the second group). By employing a t-test statistic, the differences about the demographic of firm characteristics in terms of the

period of time registered in ISO 9000 manufacturing firm in Thailand, the period of time in operating business, total assets, and average revenues per year, are compared.

The results are as follows: operation capital of the firm ($t = -0.949$, $p > 0.05$), total assets of the firm ($t = -0.522$, $p > 0.05$), number of employees ($t = -1.121$, $p > 0.05$), the period of time in operating business ($t = 0.291$, $p > 0.05$), the period of time in ISO 9000 certificate ($t = -0.678$, $p > 0.05$), and the average revenue of the firm per year ($t = -1.097$, $p > 0.05$). These results provide the evidence that there were no statistically significant differences between the two groups at a 95% confidence level. It can be confidently mentioned that non-response bias is not a serious problem in this research (Armstrong and Overton, 1977). The results of non-response bias test are presented in Appendix B.

Measurements

The measurement process involved multiple-item development for measuringeach variable in the conceptual model. In fact, all variables are the abstractions that cannot be directly measured or observed and should be measured by multiple items (Churchill, 1979). To measure each construct in the conceptual model, all variables are gained from the survey and are measured by a five-point Likert scale, ranging from 1 (strongly disagree) to 5 (strongly agree). Table 4 presents the definition of each construct, the operationalvariables, scale source, and sample questions and items. Thus, the variable measurements of the dependent variable, independent variables and control variables of this research are described in the following.

Dependent Variable

Firm sustainability is defined as firm's perception of the sustainable development in firm performance views are the increase of innovation, knowledge and assets to make the continual performance, survive in the business, financial stability, and cultural organizations, which meets the needs of the present and future growth (Egbunike, Ogbodo and Onyali, 2014; Mohamed, 2008; Nidumolu, Prahalad and Rangaswami, 2009). This construct is measured using a four item scale adapted from Robkob and Ussahawanitchaikit (2009).

Independent Variables

The first variable is a core construct of this research that is, strategic quality management costing which includes the five dimensions: product functional development expenditure, dynamic customer learning cost, defect prevention risk expenditure, continuous organizational improvement investment, and value chain creative budget. The measure of each dimension depends on its definition.

Product function development expense is defined as the firm's ability to manage cost accounting associated with allocation resource for activity performs about design, development, production, the characteristics, and features of products in order to achieve customer satisfaction (Akao, 1990; Kaynak, 2003; Nair, 2006). This construct is measured using a four-item scale developed as a new scale, based on its definition.

Dynamic customer learning cost is defined as the firm's ability to manage cost for accessing customer expectation, customer requirement, and customer need through customer database investment and communications regularly for understanding a customer change (Kapucu, Volkov and Wang, 2011; Rollins, Bellenger and Johnston, 2012; Talib and Rahman, 2010). This construct is measured using a four-item scale developed as a new scale, based on its definition.

Defect prevention risk expenditure is defined as the firm's ability to manage cost accounting system for establishing the systematic and methodology for protecting probability of failures in the work operations (BSI, 1991; Meulbroek, 2001; Visawan and Tannock, 2004). This construct is measured using a four-item scale developed as a new scale, based on its definition.

Continuous organizational improvement investment is defined as the firm's ability to manage accumulation cost information for ongoing activity aimed at raising the level of organization-wide performance through focused incremental changes in quality control circle operations (Juergensen, 2000; Mahapatra and Khan, 2006; Talib and Rahman, 2010). This construct is measured using a four-item scale developed as a new scale, based on its definition.

Value chain creativity budget is defined as the firm's ability for cost information management to determine and monitor the allocate resource for establishing, sharing, and exchanging valuable resources in business processes to increase capacity in operating organization (Horngren, Dater and Rajan, 2012; Schmitz, 2005; Wei-Hong, 2010). This construct is measured using a four-item scale developed as a new scale, based on its definition.

Consequent Variables

The second group includes the consequent of strategic quality management costing namely, customer acceptance, organizational excellence, market reliability, and goal achievement. The measure of each dimension conforms to its definition to be discussed as follows.

Customer acceptance is defined as the firm recognizes its degree of customers' feed-back, customer satisfaction, and customer's point of view to admit a valuable product and service of the firms (Kim and Lee, 2011; Limpsurapong and Ussahawanitchakit, 2011). This construct is measured using a four-item scale adapted from Robkob and Ussahawanitchaikit (2009).

Organizational excellence is defined as the firm perceives the competitive advantage of them than competitors, beyond expectations of the customers and achieves resource management on maximizing efficiency and effectiveness (Darling and Beebe, 2007; Fok-Yew and Ahmad, 2014). This construct is measured using a four-item scale adapted from Pansuppawatt and Ussahawanitchakit (2011).

Market Reliability is defined as the firm recognizing its levels of expressive beliefs, trust, dependability, and attitudes about the acceptance in the operation of the firm from outside agencies, community, society, public, and investors (Parasuraman Zeithaml and Berry, 1988; Vichare, Rodgers and Pecht, 2004).This construct is measured using four item scale developed as a new scale, based on its definition.

Goal achievement is defined as the firm perceiving the operational outcome which consists of both financial and non-financial outcome, include achieving organizational purposes, organization's mission, vision, return on stakeholder, increases productivity and profitability, and markets share (Modi and Mishra, 2011; Sampattikorn, Ussahawanitchakit and Boonlua, 2012).This construct is measured using a four-item scale adapted from Ninlaphay, Ussahawanitchaikit and Boonlua (2012).

Antecedent Variables

For this research, the internal and external factors are treated as the antecedents of SQMC. These variables are measured, using three factors of the internal factor, including long-term vision, best accounting system, and proactive accounting practice. In addition, two factors of the external factor are market competition and stakeholder requirements. All of the antecedents depend on their definitions.

Long-term vision is defined as the goals and direction of firms to organize and manage activities achieve the future objective which reveals clear conception through policies, regulations, and principles (Ozmen and Sumer, 2011). This construct is measured using a four-item scale adapted from Kittikunchotiwut and Peenanee (2013).

Best accounting system is defined as to collect, classify and report associate a financial data by designed, continuous development and improvement to obtain quality information, reliability, and compliance with business strategy (Feng and Li, 2009; Zhang and Zhou, 2007). This construct is measured using a four-item scale adapted from Chaikambang, Ussahawanitchakit and Boonlua (2012).

Proactive accounting practice is defined as the accounting process to collect, transform process, and disseminate reporting that aims to reflect economic events and performance of the firm for forward-looking, opportunity-seeking, and both current and future (Andersson et al., 2008; Howieson, 2003). This construct is measured using a four-item scale developed as a new scale, based on its definition.

Market competition is defined as the degree of facing, increase competitors in the same industry, changing of technology, customer requirements, and a variety of products to influence firm performance which increases difficulty in business operations (Hoque, Mia and Alam, 2001; Voss and Voss, 2000). This construct is measured using a four-item scale adapted from Ussahawanitchakit (2008).

Stakeholder Requirement is defined as the degree of an expectations, demands, and regulations of customer, regulators, public, and social which they has pressure in operations of a firm both direct and indirect (Foley, 2005; Lee and Hutchison, 2005). This construct is measured using a four-item scale adapted from Waroonkun and Ussahawanitchakit (2011).

Moderating Variables

Accounting learning is defined as the establishing the knowledge, recognition, and skills associated with accounting by training, experience, and knowledge management to the improvement of accounting practices (Damanpour, 1991; Jantunen, 2005; Jimenez and Valle, 2011).This construct is measured using a four-item scale adapted from Hongsombud, Ussahawanitchakit and Muenthaisong, (2012).

Control Variables

Previous research which studies cost management, two variables are needed to be controlled: firm age and firm size (Chaikambang, Ussahawanitchakit and Boonlua, 2012; Cinquini and Tenucci, 2008; Laonamtha, Ussahawanitchakit and Boonlua, 2013). Thus, for the reliability of the results, this research includes firm size and firm age as control variables to cover all factors which may affect therelationship between strategic quality management costing, consequence variables, antecedent variables and moderating variables.

Firm age refers to the number of years a firm has been in operation, and the logic that informs their strategic behavior (Chuebang and Ussahawanitchakit, 2009; Laonamtha, Ussahawanitchakit and Boonlua 2013). Prior research indicates that firm age affects cost accounting practices and success. Firm age is significantly relative to

cost management (Kenyon and Meixell, 2011). Also, different firm ages may present different organizational attributes and resource deployment (Chen and Huang, 2009). Thus, firm age is a control variable that it is a factor supports these hypotheses in this research. There are two reasons for choosing firm age. First, older firms are more likely to have established, well-organized professional employees to deal with the practices aspects of their cost accounting systems. Second, older firms better established accounting system that are more likely to be capable of producing more detailed information at less cost, compared to younger firms. In this research firm age is measured by asking a closed question about the year in which the enterprise was found. The measurement is an ordinal scale, which is analyzed by multiple regression analysis. Hence, in this research, firm age is measured by a dummy variable "1" which refers to the period of time in operating business more than 15 years and"0" which refers to less and equal 15 years.

Firm size is defined as how large or small the firm is and is measured by the number of full-time employees in the firm, averaged over the current year (Judge and Zeithaml, 1992). Prior research indicates that firm size affects cost accounting practices and success. Firm size may affect the ability to learn, diversify international operations, and to survive in international markets (Arora and Fosfuri, 2000). Recently, Jayaram, Ahire and Dreyfus (2010) investigate the effect of firm size, quality program duration, unionization, and industry context on quality management implementation. Further, company size has influences on management practices and performance (Vanichchinchai and Igel, 2011). Thus, firm size is a control variable that is a factor supports these hypotheses in this research. There are two reasons for choosing firm size. First, larger firms are more purposeful to use accounting complexity (Cinquini and Tenucci, 2008). Second, firm size is an important factor in the implementations of cost accounting practices because large organizations have sufficient resources for approaching of new knowledge and modern practices in cost information to the firm (Joshi, 2001). In this research, the researcher adapts firm sizes that are created from the concept of Roberts (1992) who measured it by the number of employees. This research firm size is measured by asking a closed question about the number of employees in which the enterprise was found. The measurement is an ordinal scale, which is analyzed

by multiple regression analysis. Hence, in this research, firm size is measured by a dummy variable “1” which refers to the number of employees more than 150 employees “0” which refers to less and equal 150 employees.

Methods

This section describes the method prepared for data analysis in the next step. All constructs in this conceptual model are developed as new scales and modified from literature review. Next, a pre-test method is deemed appropriate to be conducted to check the validity and reliability of the questionnaire. In this research, thirty cases of accounting executive information were random selected from a sampling frame of 1,088 manufacturing firm in Thailand. The pre-test is to check clearly and accurately the understanding of a questionnaire before using the real data collection. The statistical techniques include correlation analysis and hierarchical regression analysis. After the pre-test, the questionnaire is modified and adjusted to the most complete status to ensure its effectiveness before mailing to the respondents. Thus, the purpose of conducting the pre-test is to examine the validity and reliability of each measurement employed in the questionnaire.

Validity and Reliability

This research claims that validity and reliability are concerned in method of this research because both methods help establish the truthfulness, credibility, or believable of the findings (Neuman, 2006).

Validity refers to the degree to which instruments measure the constructs as they were intended to measure (Peter, 1979), and is defined as the accuracy of the measurement that it is concerned with, and whether the researchers are measuring what they want to measure (Kwok and Sharp, 1998). Content and construct validity of the questionnaire is thoroughly examined as follows.

Content validity. Content validity is the degree to which items in an instrument reflect the content universe to which the instrument will be generalized (Boudreau, Gefen andStraub, 2001). Moreover, Nunnally and Bernstein (1994) argue that content validity is the scales containing items which are adequate to measure what is intended. The content validity relies on subjective interpretation of the appropriateness of the items to the construct under study, the former from the point of the researcher gleaning knowledge from the literature, and the latter from professional academics. In this research, two professionals in academic research were requested to review the instrument and suggested necessary recommendations in order to ensure that all constructs were sufficient to cover the contents of the variables. Based on their feedback, some questions were deleted or adjusted accordingly to attain the best measurement.

Construct validity. Construct validity is evaluated by testing the convergent validity and discriminant validity to test whether items chosen for a particular construct are valid. Convergent validity refers to the degree to which two measures are designed to measure the same constructs that are related. Convergence is found if the two measures have a high correlation (Kwok and Sharp, 1998). Discriminant validity assesses the degree to which an operation is not similar to (or divergent from) other operations. Thus, this validity also means that individually measured items should represent only one construct. The presence of cross-loading indicates a discriminant validity problem. Additionally, the exploratory factor analysis (EFA) and the confirmatory factor analysis (CFA) are used to test the construct validity in this research. Construct validity is used to investigate the underlying relationships of a large number of items and determine whether they can reduce to a smaller set of factors. As a rule-of-thumb, the acceptable cutoff score is 0.40 as a minimum (Nunnally and Bernstein, 1994). Table 5 shows the results of factor loadings of multi-item scales. It can be seen that each item of all variables is loaded on a single factor and the range of factor loadings is between 0.476-0.964 (see Table 5). These values are greater than the cut-off score of 0.4 to indicate acceptable construct validity. Besides, each of the items in a questionnaire is subjectively assessed by two related academic experts to ensure the content validity (see Appendix D).

Reliability. Reliability is the degree to which the measurement is true and error-free, of the observed variable, and it indicates the degree of internal consistency between the multiple variables (Hair et al., 2010). This research assesses the reliability of each construct to ensurethe degree of consistency between multiple measurements of a variable (Hair et al., 2010). The item-to-total correlation and the inter-item correlation are used to test the internal consistency. Moreover, reliability is the extent to which measurements of the particular test are repeated. The more consistent the results given by repeated measurements are, the higher the reliability of the procedure is (Carmines and Zeller, 1979). The context of internal consistency is that the individual items should all be measuring the same construct, and be highly inter-correlated. Accordingly, Cronbach's alpha coefficient (Hair et al., 2010) is commonly used as a measure of the internal consistency or reliability of the constructs. This research proposed to test the validity and the reliability of a questionnaire (using 30 questionnaires which are first returned by mail) as good qualities assure the internal consistency of the construct by Cronbach's alpha which should be greater than 0.70 (Hair et al., 2010). The results for both factor loading and Cronbach's alpha for multiple-item scales used in this research. The Cronbach's alpha coefficients for all variables presented between 0.725 - 0.980 (see Table 5) are greater than 0.70 as recommended by Hair et al. (2010).

Table 5 Results of Measure Validation

Variables	n	Validity (Factor Loadings)	Reliability (Cronbach's Alpha Coefficient)
Product Function Development Expense(PFD)	30	.676-.919	.751
Dynamic Customer Learning Cost (DCL)	30	.712-.795	.734
Defect Prevention Risk Expenditure (DPR)	30	.793-.919	.865
Continuous Organizational Improvement Investment (COI)	30	.476-.950	.799
Value Chain Creativity Budget (VCC)	30	.806-.930	.887
Customer Acceptance (CA)	30	.729-.880	.802
Organizational Excellence (OE)	30	.633-.854	.754
Market Reliability (MR)	30	.828-.862	.881
Goal Achievement (GA)	30	.530-.866	.725
Firm Sustainability (FT)	30	.823-.955	.980
Long-Term Vision (LT)	30	.851-.931	.903
Best Accounting System (BA)	30	.883-.947	.935
Proactive Accounting Practice (PA)	30	.860-.964	.946
Market Competition (MC)	30	.579-.888	.762
Stakeholder Requirements (SR)	30	.762-.906	.861
Accounting Learning (AL)	30	.845-.946	.931

Statistical Techniques

Before hypotheses testing, all of raw data were checked, encoded, and recordedin a data file. Then, the basis assumption of regression analysis is tested. This process involves checking the normality, heteroscedasticity, autocorrelation, and linearity. Moreover, the outlier problem is concerned.

*Variance inflation factor (VIF).*Variance inflation factor is an indicator to indicate a high degree of multicollinearity among the independent variables. The VIF is an index which measures the impact of collinearity among the predictors in a regression model on the precision of estimation. A rule of thumb is that when the VIF is equal or greater than 10, a problem with multicollinearity is severe (Hair et al., 2010; Burns and Burns, 2008; Stevens, 2002). That is, multicollinearity poses a great problem for multiple regressions such as limiting the size of correlation, and increasing variances of the regression coefficients (Stevens, 2002). Typically, when a VIF value is greater than 10, it should be concerned about multicollinearity problems, while the value of a VIF that is less than 10 indicates that there is no statistically significant problem of multicollinearity between the predictor variables (Hair et al., 2010). That is, multicollinearity greatly poses a problem for multiple regression such as increasing variances of the regression coefficients, sign of correlation were not correct, limiting the size of the correlation, and that results show more statistical significance or less statistical significance than fact.In this research, an analysis of collinearity statistics indicates that the range of VIF values is 1.051 - 5.436, which indicates that there is no multicollinearity problem (see also Appendix E).

Correlation Analysis is a term that refers to the strength of a relationship between two variables. Correlation coefficient (r) is a coefficient that indicates the strength of the association between any two metric variables. The sign (+ or -) indicates of the relationship the direction. The value can range from +1 to -1 indicating a positive relationship, 0 indicating no relationship, and -1 indicating a perfect negative or reverse relationship. Pearson Correlation Analysis is commonly used to test the correlations among all variables especially, and to test the relationship among independent variables to have a sign of multicollinearity problems indicated when the intercorrelation between explanatory variables exceeds 0.90 (Hair et al., 2010). This problem occurs when any single independent variable is highly correlated with other independent variables. In other words, a variable can be explained by the other variables in the analysis of multicollinearity. However, factor analysis is used to group highly correlated variables together, and the factor score of all variables is prepared to avoid the multicollinearity problems. Then, they are evaluated by the regression analysis.

Regression analysis. The Ordinary Least Squares (OLS) regression analysis is used to test all hypotheses following the conceptual model. The regression equation origination is a linear association of the independent variables that best describes and predicts the dependent variable (Aulakh, Rotate and Teegen, 2000). OLS is appropriated to examine the relationship between dependent variables and independent variables of which all variables are categorical and have interval data (Hair et al., 2010). The OLS regression is appropriate for examining the relationship between the independent variables and dependent variables because both variables are a categorical and interval scale (Hair et al., 2010). The basic assumption of regression analysis was tested before to run a regression to test the hypotheses. This process involves checking Pearson Correlation for testing linearity, and VIF test for testing the multicollinearity problems. Before hypotheses testing, all raw data are diagnosed basic assumptions of regression analysis including autocorrelation, normality, heteroscedasticity, and linearity. The results test the basic assumption of regression analysis show that: the relationships between dependent and independent variables of each model are linear, the variance of error constant (no heteroscedastic problem). In this research, it indicates that the range of Dubin-Watson d statistics is 1.687 – 2.016, which indicates that there is no multicollinearity problem (see Appendix E). The Durbin-Watson statistic does not exceed 2.5 (no autocorrelation) (Tabachnick and Fidell, 2000), and error has a normal distribution.

The analysis in this research is calculated from the factor scores for all variables. These are prepared to avoid and reduce the mullticollinearity problems from independent variables. Then, the data are evaluated by the ordinary least squares (OLS) regression analysis. Therefore, all hypotheses in this research are transformed to 17 equations. Each equation consists of the main variables related to the hypotheses testing as described in the previous chapter. Moreover, two control variables, firm age and firm size, are included in all of thoseequations for hypotheses testing. The detail of each equation is presented as the following.

The investigation of the relationships between five dimensions of strategic quality management costing and customer acceptance is presented in equation 1 as follows:

Equation 1: $CA = \alpha_{01} + \beta_1 DFD + \beta_2 DCL + \beta_3 DPR + \beta_4 COI + \beta_5 VCC + \beta_6 FA + \beta_7 FS + \varepsilon_1$

The investigation of the relationships between five dimensions of strategic quality management costing and organizational excellence is presented in equation 2 as follows:

Equation 2: $OE = \alpha_{02} + \beta_8 DFD + \beta_9 DCL + \beta_{10} DPR + \beta_{11} COI + \beta_{12} VCC + \beta_{13} FA + \beta_{14} FS + \varepsilon_2$

The investigation of the relationships between five dimensions of strategic quality management costing and market reliability is presented in equation 3 as follows:

Equation 3: $MR = \alpha_{03} + \beta_{15} DFD + \beta_{16} DCL + \beta_{17} DPR + \beta_{18} COI + \beta_{19} VCC + \beta_{20} FA + \beta_{21} FS + \varepsilon_3$

The investigation of the relationships between five dimensions of strategic quality management costing and goal achievement is presented in equation 4 as follows:

Equation 4: $GA = \alpha_{04} + \beta_{22} DFD + \beta_{23} DCL + \beta_{24} DPR + \beta_{25} COI + \beta_{26} VCC + \beta_{27} FA + \beta_{28} FS + \varepsilon_4$

The investigation of the relationships between five dimensions of strategic quality management costing and firm sustainability is presented in equation 5 as follows:

Equation 5: $FT = \alpha_{05} + \beta 2_{29} DFD + \beta_{30} DCL + \beta_{31} DPR + \beta_{32} COI + \beta_{33} VCC + \beta_{34} FA + \beta_{35} FS + \varepsilon_5$

In order to test the relationships among customer acceptance, organizational excellence, and market reliability which act a role as mediator variables and goal achievement, they are presented in equation 6 as follows:

Equation 6: $GA = \alpha_{06} + \beta_{36}CA + \beta_{37}OE + \beta_{38}MR + \beta_{39}FA + \beta_{40}FS + \varepsilon_6$

The investigation of the relationships between goal achievement and firm sustainability is presented in equation 7 as follows:

Equation 7: $FT = \alpha_{07} + \beta_{41}GA + \beta_{42}FA + \beta_{43}FS + \varepsilon_7$

Next, this research also investigated the relationships among the antecedent variables named long-term vision, best accounting system, proactive accounting practice, market competition, and stakeholder requirements on the five dimensions of strategic quality management costing. Moreover, the tests of the effects of moderators (accounting learning) are combined, which are presented in equations 8, 9, 10, 11, 12, 13, 14, 15, 16 and17 as follows:

Equation 8: $PFD = \alpha_{08} + \beta_{44}LT + \beta_{45}BA + \beta_{46}PA + \beta_{47}MC + \beta_{48}SR + \beta_{49}FA + \beta_{50}FS + \varepsilon_8$

Equation 9: $DCL = \alpha_{9} + \beta_{51}LT + \beta_{52}BA + \beta_{53}PA + \beta_{54}MC + \beta_{55}SR + \beta_{56}FA + \beta_{57}FS + \varepsilon_9$

Equation 10: $DPR = \alpha_{10} + \beta_{58}LT + \beta_{59}BA + \beta_{60}PA + \beta_{61}MC + \beta_{62}SR + \beta_{63}FA + \beta_{64}FS + \varepsilon_{10}$

Equation 11: $COI = \alpha_{11} + \beta_{65}LT + \beta_{66}BA + \beta_{67}PA + \beta_{68}MC + \beta_{69}SR + \beta_{70}FA + \beta_{71}FS + \varepsilon_{11}$

Equation 12: VCC = α_{12}+ β_{72}LT + β_{73}BA + β_{74}PA + β_{75}MC
+ β_{76}SR + β_{77}FA+ β_{78}FS+ε_{12}

Equation 13: PFD = α_{13}+ β_{79}LT + β_{80}BA + β_{81}PA + β_{82}MC + β_{83}SR
+ β_{84}AL+ β_{85}(LT*AL)+ β_{86}(BA*AL)
+ β_{87}(PA*AL)+ β_{88}(MC*AL)+β_{89}(SR*AL)
+ β_{90}FA+ β_{91}FS+ε_{13}

Equation 14: DCL = α_{14}+ β_{92}LT+ β_{93}BA + β_{94}PA + β_{95}MC + β_{96}SR
+β_{97}AL+ β_{98}(LT*AL) + β_{99}(BA*AL) + β_{100}(PA*AL)
+ β_{101}(MC*AL)+ β_{102}(SR*AL) + β_{103}FA+ β_{104}FS+ε_{14}

Equation 15: DPR = α_{15}+ β_{105}LT + β_{106}BA+ β_{107}PA + β_{108}MC
+ β_{109}SR + B_{110}AL+ β_{111}(LT*AL) + β_{112}(BA*AL)
+ β_{113}(PA*AL) + β_{114}(MC*AL)+ β_{115}(SR*AL)
+ β_{116}FA+ β_{117}FS+ε_{15}

Equation 16: COI = α_{16}+ β_{118}LT + β_{119}BA + β_{120}PA + β_{121}MC
+ β_{122}SR + β_{123}AL+ β_{124}(LT*AL) + β_{125}(BA*AL)
+ β_{126}(PA*AL) + β_{127}(MC*AL)+β_{128}(SR*AL)
+ β_{129}FA+ β_{130}FS+ε_{16}

Equation 17: VCC = α_{17}+ β_{131}LT + β_{132}BA + β_{133}PA + β_{134}MC
+ β_{135}SR + β_{136}AL+ β_{137}(LT*AL) + β_{138}(BA*AL)
+ β_{139}(PA*AL) + β_{140}(MC*AL)+β_{141}(SR*AL)
+ β_{142}FA+ β_{143}FS+ε_{17}

Where,

GA	=	Goal achievement
FT	=	Firm sustainability
PFD	=	Product function development expense
DCL	=	Dynamic customer learning cost
DPR	=	Defect prevention risk expenditure
COI	=	Continuous organizational improvement investment
VCC	=	Value chain creativity budget
CA	=	Customer acceptance
OE	=	Organizational excellence
MR	=	Market reliability
LT	=	Long-term vision
BA	=	Best accounting system
PA	=	Proactive accounting practice
MC	=	Market competition
SR	=	Stakeholder requirements
AL	=	Accounting learning
FA	=	Firm age
FS	=	Firm size
β	=	Regression coefficient
α	=	Constant
ε	=	Error

Summary

This chapter details the research methods for collection data and examining all indicating variables in the conceptual model to answer the research questions. Thecontents involve the population, sample selection, and data collection procedure, including a test of non-response bias. Finally, Table 6 concludes the definition of each construct, operational definitions and scale sources.

Table 6 Definitions and Operational Definitions of Strategic Quality Management Costing and All Constructs

Constructs	Definitions	Operational Variables	Scale Sources
Dependent Variables			
Firm sustainability (FT)	Firm's perception of the sustainable development in firm performance views are increasing innovation, knowledge, and assets for the benefit of the organization continued, survive in business operation, business stability, and employee participation awareness, which meets the needs of the present and future growth (Egbunike, Ogbodo and Onyali, 2014; Mohamed, 2008; Nidumolu, Prahalad and Rangaswami, 2009)	This construct is measured by respondents' perceptions of performance about knowledge, innovations, and assets which create value added to the organization, there are the ability to survive in the business, financial stability and cultural organizations.	Robkob and Ussahawanitchakit (2009)
Main Variables			
Strategic quality management costing (SQMC)	The firm's capabilities to collect, classify, analyze, and report the quality cost information for the usefulness of measuring and evaluating the priority importance of quality problems and identifies major opportunities in order to cost reduction and improve quality management leading to firm sustainability.	This construct is measured by respondents' perceptions of product functional development expenditure, dynamic customer learning cost, continuous organizational improvement investment, defect prevention risk expenditure, and value chain creative budget.	New scale

Table 6 Definitions and Operational Definitions of Strategic Quality Management Costing and All Constructs (continued)

Constructs	Definitions	Operational Variables	Scale Sources
Main Variables			
Product function development expense (PFD)	The firm's ability to manage cost accounting associated with allocation resource foractivity performs about design, develop, production the characteristics and features of products in order to achieve customer satisfaction (Akao, 1990; Kaynak, 2003; Nair, 2006).	This construct is measured by respondents' perceptions of the systematic system of managing product development system based on the activity performs about allocation resource, investment technology and employee training programs.	New scale
Dynamic customer learning cost (DCL)	The firm's ability to manage cost for accessing customer expectation, customer requirement, and customer need through customer database investment and communications regularly for understanding a customer change (Kapucu, Volkov and Wang, 2011; Rollins, Bellenger and Johnston, 2012;Talib and Rahman, 2010).	This construct is measured by respondents' perceptions of customer learning importance which manage employee training programs about the customer management modern, customer database investment, and communications with customers regularly.	New scale

Table 6 Definitions and Operational Definitions of Strategic Quality Management Costing and All Constructs (continued)

Constructs	Definitions	Operational Variables	Scale Sources
Main Variables			
Defect prevention risk expenditure (DPR)	The firm's ability to manage cost accounting system for establishing the systematic and methodology for protecting probability of failures in the work operations (BSI, 1991; Meulbroek, 2001; Visawan and Tannock, 2004).	This construct is measured by respondents' perceptions about systematic of cost classification and reporting relate to expenditure of prevention risk incurred defect of operations include investing in the development of those systems.	New scale
Continuous organizational improvement investment (COI)	The firm's ability to manage accumulation cost information for ongoing activity aimed at raising the level of organization-wide performance through focused incremental changes in quality control circle operations (Juergensen, 2000; Mahapatra and Khan, 2006; Talib and Rahman, 2010).	This construct is measured by respondents' perceptions of continuous improvement important, by using budget appropriation, and cost classification and reporting usefulness control and evaluations cost and benefits.	New scale

Table 6 Definitions and Operational Definitions of Strategic Quality Management Costing and All Constructs (continued)

Constructs	Definitions	Operational Variables	Scale Sources
Main Variables			
Value chain creativity budget (VCC)	The firm's ability to cost information management for determining and monitoring the allocate resource for establishing, sharing and exchanging valuable resources in business processes for increase capacity in operate organization (Horngren, Dater and Rajan, 2012; Schmitz, 2005; Wei-Hong, 2010).	This construct is measured by respondents' perceptions about the value-added analysis, budget appropriation, incentive and cost and expense reporting about value-creating on the activities of the value chain.	New scale
Consequences Variable			
Customer acceptance (CA)	The firm recognizes its degree of customers' feed-back, customer satisfaction, and customer's point of view to admita valuable product and serviceof the firms (Kim and Lee, 2011; Limpsurapong and Ussahawanitchakit, 2011).	This construct is measured by respondents' perceptions that customer satisfaction by positive outputs; product, service, price, teaching quality, and ethical practices, concludes achieve customer loyalty.	Robkob and Ussahawanitchaikit (2009)
Organizational excellence (OE)	The firm perceives the competitive advantage of them than competitors, beyond expectations of the customers and achieves resource management on maximizing efficiency and effectiveness (Darling and Beebe, 2007; Fok-Yew and Ahmad, 2014).	This construct is measured by respondents' perceptions of achieving the goal about standards; there are talents to create a distinctive and resources management.	Pansuppawatt and Ussahawanitchakit (2011)

Table 6 Definitions and Operational Definitions of Strategic Quality Management Costing and All Constructs (continued)

Constructs	Definitions	Operational Variables	Scale Sources
Consequences Variable			
Market reliability (MR)	The firm recognizes its levels of expressive beliefs, trust , dependability and attitudes about the acceptance in the operation of the firmfrom outside agencies, community, society, public, and investors (Parasuraman, Zeithaml and Berry, 1988; Vichare, Rodgers and Pecht, 2004)	This construct is measured by respondents' perceptions to organizational reliability of; markets, outside agencies, community, society, public, and investors.	New scale
Goal achievement (GA)	The firm perceives the operational outcome which consists of both financial and non-financial outcome, includes achieving organizational purposes, organization's mission, vision, return on stakeholder, increases productivity and profitability, and markets share (Modi and Mishra, 2011; Sampattikorn, Ussahawanitchakit and Boonlua, 2012).	This construct is measured by respondents' perceptions to achieve the objectives into business strategies, it consists of both financial and non-financial outcome; return on stakeholder, increase productivity and profitability, and markets share.	Ninlaphay, Ussahawanitchakit and Boonlua (2012)

Table 6 Definitions and Operational Definitions of Strategic Quality Management Costing and All Constructs (continued)

Constructs	Definitions	Operational Variables	Scale Sources
Antecedents Variables			
Long-term vision (LT)	The goals and direction of firms for organize and manage activities achieve the future objective which reveals clear conception through policies, regulations, and principles (Ozmen and Sumer, 2011).	This construct is measured by respondents' perceptions of future objectives and goals such as long-term; planning, indicator, investment in development about employees and technology.	Kittikunchotiwut and Peemanee (2013)
Best accounting System (BA)	The collect, classify and report associate a financial data by designed, continuous development and improvement to obtain quality information, reliability, and compliance with business strategy (Feng and Li, 2009; Zhang and Zhou, 2007).	This construct is measured by respondents' perceptions that accounting system in firm, by implement technology, there is continuous improvement, and link between accounting systems and management systems.	Chaikambang, Ussahawanitchakit and Boonlua (2012)
Proactive accounting Practice (PA)	The accounting process to collect, transform process, and disseminate reporting that aims to reflect economic events and performance of the firm for forward-looking, opportunity-seeking and both current and future (Andersson et al., 2008; Howieson, 2003).	This construct is measured by respondents' perceptionsof accounting practice are contemplate the performance of future, analysis process and presents accounting information consist; economic events of organization, market and competitor information.	New scale

Table 6 Definitions and Operational Definitions of Strategic Quality Management Costing and All Constructs (continued)

Constructs	Definitions	Operational Variables	Scale Sources
Antecedents Variables			
Market competition (MC)	The degree of facing, increases competitors in the same industry, changing of technology, customer requirements, a variety of products to influence firm performance which increases difficulty in business operations (Hoque, Mia and Alam, 2001; Voss and Voss, 2000).	This construct is measured by respondents' perceptions the level of competitive environment, which consists of number of competitors in a market increases, complexity of the business environment, consumers want quality products increased and change of technology, those are difficult and opportunities for business operations.	Ussahawanitchaikit (2008)
Stakeholder requirements (SR)	The degree of an expectations, demands, and regulations of customer, regulators, public, and social which they have pressure in operations of a firm both direct and indirect (Foley, 2005; Lee and Hutchison, 2005).	This construct is measured by respondents' perceptions a pressure of expectation's public, customer's demand, regulators and corporate social responsibility that those have influence on of the organization operation.	Waroonkun and Ussahawanitchakit (2011)

Table 6 Definitions and Operational Definitions of Strategic Quality Management Costing and All Constructs (continued)

Constructs	Definitions	Operational Variables	Scale Sources
Moderator Variables			
Accounting learning (AL)	The establishing of knowledge, recognition, and skills associated with accounting by training, experience, and knowledge management to the improvement of accounting practices (Damanpour, 1991; Jantunen, 2005; Jimenez and Valle, 2011).	This construct is measured by respondents' perceptions of the importance of learning and understanding how to perform accounting which processes learning from employee training programs, experience and knowledge management leading to the efficiency of mange accounting.	Hongsombud, Ussahawanitchakit and Muenthaisong (2012)
Control Variables			
Firm age (FA)	The period of time in operating business (Chen and Huang, 2009; Chuebang and Ussahawanitchakit, 2009; Kenyon and Meixell, 2011; Laonamtha and Ussahawanitchakit, 2013)	Dummy variable 1 = more than 15 years and 0 = less and equal 15 years.	Laonamtha and Ussahawanitchakit (2013)
Firm size (FS)	The number of employees (Arora and Fosfuri, 2000; Jayaram, Ahire and Dreyfus, 2010; Judge and Zeithaml, 1992; Roberts,1992)	Dummy variable 1 = more than 150 employees and 0 = less and equal 150 employees.	Roberts (1992)

CHAPTER IV

RESULTS AND DISCUSSION

The previous chapter describes the research methods used to understand, the population and sample selection, data collection procedures, variable measurements, and statistical analyses. This chapter presents the results of statistical testing which areorganized as follows. Firstly, respondent characteristics and descriptive statistics are demonstrated. Secondly, the results of correlation analysis and hypotheses testing by using multiple regression analysis are described. Finally, the summary of all hypotheses testing is also provided.

Respondent Characteristics

Respondent Characteristics

The unit of analysis in this research is the ISO 9000 manufacturing firms in Thailand. The characteristics of key informants are described by the demographic data including gender, age, marital status, educational level, work experience, average monthly income, and the working position in a company. The demographic characteristics of 195 key informants who returned questionnaires. The most respondent participants are female (77.95 percent). The age is during 41 to 50 years old (48.21 percent). The maritalstatus is married (71.79 percent). The education level is bachelor's degree or undergraduate (58.97percent). In addition, participants have been working experiencemore than 15 years (46.66 percent). Also, the key informants' average monthly income is less than 75,000 baht (50.26 percent). Finally, the main position of the key informant in a company is an accounting manager, at 58.46 percent. (see Table C1 in Appendix C)

Firm Characteristics

The demographic data shows that business owner types of sampled firms. The most is company (96.41 percent), an industrial categories is others category (26.68 percent) and an operational capital of firm is more than 15,000,000 baht (42.05 percent). Furthermore, total assets of the firm more than 150,000,000 baht (48.21 percent). In addition, the number of employees is more than 150 persons (45.64 percent).

The period of time in operating business of most sampled firms is more than 15years (58.46 percent). The period of time in ISO 9000 certificate of most sampled firms is more than 10 years (50.26 percent). Finally, the average revenue of firm per year of most sampled firms is more than 30,000,000 baht (61.03 percent) (see Table C2 in Appendix C).

Correlation Analysis

The Pearson correlation for bivariate analysis of each variable pair is conducted in this research. The correlation analysis results show a multicollinearity problem and explore the relationships among the variables. Table 7 shows the results of the correlation analysis of all constructs. The bivariate correlation procedure is subject to a two-tailed test of statistical significance at $p < 0.01$. Therefore, the correlation matrix can prove the correlation between the two variables and verify the multicollinearity problems by the intercorrelations among the independent variables.

The results indicate no multicollinearity problems in this research, and the result is lower at 0.90 (Hair et al., 2010). Accordingly, the evidence suggests that they are significantly related among the five dimensions of strategic quality management costing between 0.494 and 0.805, $p < 0.01$. The correlation matrix reveals a correlation between the consequences of the dimensions of strategic quality management costing. The result indicates that the dimension of strategic quality management costing in relation to customer acceptance, organizational excellence, market reliability, and goal achievement are significant and positively correlated between 0.384 and 0.769, $p < 0.01$. The antecedent constructs, including long-term vision, best accounting system, proactive accounting practice, market competition and stakeholder requirements are significantly related to the dimensions of strategic quality management costing ($r = 0.277 - 0.823$, $p < 0.01$). Finally, the moderating effect of accounting learning has correlations with all variables between 0.440 and 0.827, $p < 0.01$.

Conclusion, the results indicate no multicollinearity problems in this research, because the result correlation analysis is less than 0.90 and Variance inflation factors (VIFs*)* that is less than 10 (Hair et al., 2010), the maximum value of VIF is 5.436 (see also Appendix E).

Table 7 Descriptive Statistics and Correlation Matrixof Strategic Quality Management Costing and All Constructs

Variables	PFD	DCL	DPR	COI	VCC	CA	OE	MR	GA	FT	LT	BA	PA	MC	SR	AL	FA	FS
Mean	4.19	4.27	4.21	4.23	4.11	4.20	4.09	3.90	3.83	3.97	4.19	4.24	4.19	4.33	4.32	4.21	N/A	N/A
S.D.	0.56	0.53	0.54	0.52	0.60	0.53	0.53	0.55	0.54	0.52	0.54	0.57	0.56	0.52	0.50	0.52	N/A	N/A
PFD	1																	
DCL	.722***	1																
DPR	.636***	.750***	1															
COI	.494***	.543***	.615***	1														
VCC	.503***	.537***	.632***	.805***	1													
CA	.400***	.406***	.384***	.583***	.604***	1												
OE	.475***	.445***	.445***	.686***	.624***	.769***	1											
MR	.540***	.533***	.560***	.601***	.597***	.662***	.735***	1										
GA	.440****	.534***	.520***	.490***	.522***	.573***	.666***	.755***	1									
FT	.409***	.481***	.521***	.551***	.573***	.610***	.656***	.704***	.724***	1								
LT	.518***	.536***	.542***	.617***	.640***	.545***	.655***	.638***	.619***	.624***	1							
BA	.395***	.469***	.476***	.586***	.583***	.461***	.544***	.551***	.439***	.497***	.672***	1						
PA	.434***	.481***	.529***	.629***	.619***	.490***	.542***	.594***	.480***	.557***	.675***	.823***	1					
MC	.316***	.384***	.277***	.477***	.507***	.417***	.422***	.351***	.336***	.419***	.557***	.570***	.611***	1				
SR	.389***	.403***	.423***	.528***	.574***	.396***	.443***	.436***	.351***	.488***	.653***	.600***	.644***	.762***	1			
AL	.443***	.440***	.455***	.593***	.565***	.488***	.569***	.591***	.440***	.532***	.646***	.791***	.827***	.484***	.581***	1		
FA	.056	.039	.024	.029	-.030	.126	.083	.020	.030	.095	.098	.089	.101	.021	.101	.093	1	
FS	.007	-.059	-.070	.006	-.024	.007	.128	.105	.109	.105	.130	.117	.095	.095	.117	.080	.190**	1

*** Correlation is significant at the 0.01 level (2-tailed), ** Correlation is significant al the 0.05 level (2-tailed)

Hypothesis Testing and Results

The Ordinary Least Squares (OLS) regression analysis is conducted in the research. The regression equation generated is a linear combination of the independent variables that best explains and predicts the dependent variable (Aulakh, Kotabe and Teegen, 2000). Therefore, OLS is an appropriate method for examining the hypothesized relationships. In this research, all hypotheses are transformed into 17 equations. Furthermore, the two dummy variables firm size and firm age, which are consistent with the datacollection included in those equations for testing.

The Effects of Each Dimension of Strategic Quality Management Costing on Its Consequences

With respect to the relationships, this research posits strategic quality management costing as the consequences. Customer acceptance, organizational excellence, market reliability, goal achievement, and firm sustainability are the consequences of strategic quality management costing. Table 8 shows the correlation between the independent and dependent variables. For the independent variables, five dimensions of strategic quality management costing consist of product functional development expenditure, dynamic customer learning cost, defect prevention risk expenditure, continuous organizational improvement investment, and value chain creativity budget. The dependent variables consist of customer acceptance, organizational excellence, market reliability, goal achievement and firm sustainability as illustrated in Figure 7.

The correlation among independent and dependent variables are shown in Table 8. The results indicate that product functional development expenditure is significantly and positively correlated with strategic quality management costing, customer acceptance, organizational excellence, market reliability, goal achievement and firm sustainability ($r = .400$, $p < .01$; $r = .475$, $p < .01$; $r = .540$, $p < .01$; $r = .440$, $p < .01$; $r = .409$, $p < .01$, respectively).

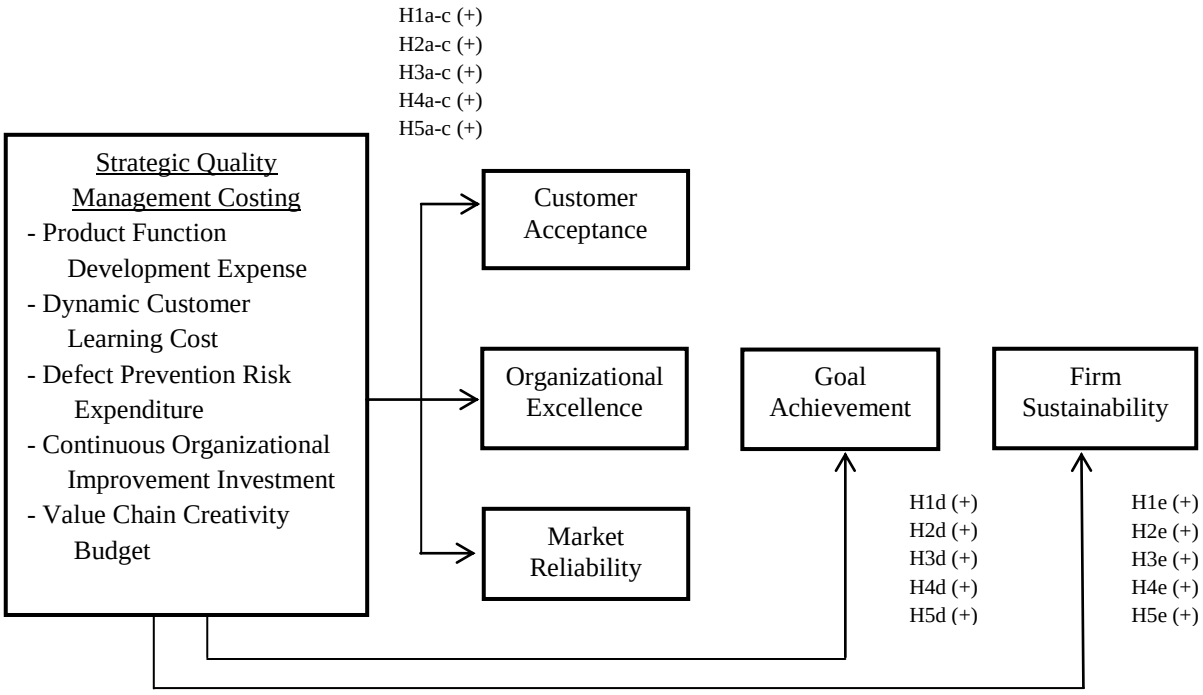
Then, dynamic customer learning cost is significantly and positively correlated with strategic quality management costing, customer acceptance, organizational excellence, market reliability, goal achievement and firm sustainability ($r = .406$, $p<.01$; $r = .445$, $p < .01$; $r = .533$, $p <.01$; $r = .534$, $p <.01$; $r = .481$, $p < .01$, respectively).

Furthermore, defect prevention risk expenditure is significantly and positively correlated with strategic quality management costing, customer acceptance, organizational excellence, market reliability, goal achievement and firm sustainability ($r = .384$, $p < .01$; $r = .445$, $p < .01$; $r = .560$, $p < .01$; $r = .520$,$p < .01$; $r = .521$, $p< .01$, respectively).

In addition, continuous organizational improvement investment is significantly and positively correlated with strategic quality management costing, customer acceptance, organizational excellence, market reliability, goal achievement and firm sustainability ($r = .583$, $p < .01$; $r = .686$, $p < .01$; $r = .601$, $p < .01$; $r = .490$,$p < .01$; $r = .551$, $p < .01$, respectively).

Finally, value chain creativity budget is significantly and positively correlated with strategic quality management costing, customer acceptance, organizational excellence, market reliability, goal achievement and firm sustainability ($r = .604$, $p< .01$; $r = .624$, $p < .01$; $r = .597$, $p < .01$; $r = .522$, $p < .01$; $r = .573$, $p < .01$, respectively). Most of these correlation coefficients are less than 0.9. Consequently, overall, the multicollinearity problems are not a concern for this analysis (Hair et al., 2010).

Figure 7 Results of the Effects of Strategic Quality Management Costing on Its Consequences



For the correlation between independent variables, the results from Table 8 also show that product function development expense is significantly and positively correlated with dynamic customer learning cost, defect prevention risk expenditure, continuous organizational improvement investment and value chain creativity budget ($r = .722$, $p < .01$; $r = .636$, $p < .01$; $r = .494$, $p < .01$; $r = .503$, $p < .01$, respectively). Then, dynamic customer learning cost is significantly and positively correlated with defect prevention risk expenditure, continuous organizational improvement investment and value chain creativity budget ($r = .750$, $p < .01$; $r = .543$, $p < .01$; $r = .537$, $p < .01$, respectively).

Furthermore, defect prevention risk expenditure is significantly and positively correlated with continuous organizational improvement investment and value chain creativity budget ($r = .615$, $p < .01$; $r = .632$, $p < .01$, respectively). Finally, continuous organizational improvement investment is significantly and positively correlated with value chain creativity budget ($r = .805$, $p < .01$).

Table 8 Descriptive Statistics and Correlation Matrix of Strategic Quality Management Costing and Its Consequences

Variables	PFD	DCL	DPR	COI	VCC	CA	OE	MR	GA	FT	FA	FS
Mean	4.19	4.27	4.21	4.23	4.11	4.20	4.09	3.90	3.83	3.97	n/a	n/a
S.D.	.56	.53	.54	.52	.60	.53	.53	.55	.54	.52	n/a	n/a
PFD	1											
DCL	.722***	1										
DPR	.636***	.750***	1									
COI	.494***	.543***	.615***	1								
VCC	.503***	.537***	.632***	.805***	1							
CA	.400***	.406***	.384***	.583***	.604***	1						
OE	.475***	.445***	.445***	.686***	.624***	.769***	1					
MR	.540***	.533***	.560***	.601***	.597***	.662***	.735***	1				
GA	.440****	.534***	.520***	.490***	.522***	.573***	.666***	.755***	1			
FT	.409***	.481***	.521***	.551***	.573***	.610***	.656***	.704***	.724***	1		
FA	.056	.039	.024	.029	-.030	.126	.083	.020	.030	.095	1	
FS	.007	-.059	-.070	.006	-.024	.007	.128	.105	.109	.105	.190**	1

*** Correlation is significant at the 0.01 level (2-tailed), ** Correlation is significant al the 0.05 level (2-tailed)

Most of these correlation coefficients are less than 0.9. Consequently, overall, the multicollinearity problems are not a concern for this analysis (Hair et al., 2010). Likewise, variance inflation factors (VIF) are used to test the correlation among the independent variables (see Table 9). In this case, the maximum value of VIF is 3.157, which is well less than value of 10 (Hair et al., 2010), meaning that each variable is not correlated with each other. Accordingly, there are no significant multicollinearity problems confronted in this research.

Table 9 exhibits the results of the OLS regression analysis of the impacts Of each perspective of strategic quality management costing (product functional development expenditure, dynamic customer learning cost, defect prevention risk expenditure, continuous organizational improvement investment, and value chain creativity budget) on its consequences (customer acceptance, organizational excellence, market reliability, goal achievement and firm sustainability) which are followed by Hypotheses 1 to 5.

Firstly, the evidence in Table 9 indicate that product functional development expenditure (Hypotheses 1a-e) has significant positive effects on organizational excellence (β_8 = .177, p < .05), market reliability (β_{15} = .193, p < .05).

Product functional development expenditure has a positive influence on organizational excellence. This is consistent with researchers who found that new product development manufacturability can provide competitive advantage by reducing costs, improving customer value and accelerate products to market. It also shows that, due to these changes, the role of design engineers have a broad impact on production; and through this, can improve manufacturability costs and time-to-market value for the customer. In addition, the costs that occur before delivering the product to the customer cost of new product review and evaluating or auditing products make sure that everything is in conformance to quality standards and performance requirements (Doll, Hong and Nahm, 2010). These costs usually happen in product function development activity. Thus, firm focuses on allocation of a budget to develop the product function to meet the systematic standards will result in organizational excellence.

Furthermore, the cost products information is an essential component in support of making decisions about selling prices, make-or-buy, cost reduction, product design, evaluating new manufacturing processes and drop production (Brierley, Cowton and Drury, 2006). Thus, a firm is concerned withproduct development, and indicates a necessary increment of innovation and improvement for new product success of firms (Bagchi-Sen, 2001). Product functional development expenditure has a positive influence on market reliability. This is consistent with the work of Akenbor (2014) findings generated in this study with revealed a positive, significant relationship between quality cost conformance, product functional development expenditure, and customer satisfaction of health products. Similarly, the work of Fang and Zou (2009) shows that product development is the key leading to marketing competitiveness.

Likewise, the work of Murray and Chao (2005) investigates new product development speed, development cost efficiency, and product quality leading to marketing performance. Furthermore, creativity is new product development that is important to enhance product innovation that leads to the performance of marketing and sustainability in the quick foods and convenience foods business (Krokaewand Ussahawanitchakit, 2015). Similarly, the study realized by Zirger and Maidique (1990)

argues that product development, causing new product originality, are important in relation to product quality and uniqueness that lead to a sustainable market.

As mentioned above, the costs that occur before delivering the product to the customer such as the cost of a new product review and evaluating or auditing products to make sure everything is in conformance with costs leading to quality standard and performance requirements of a marketplace. Thus, product functional development expenditure has a positive influence on organizational excellence and market reliability. ***Therefore, Hypotheses 1b and 1c are supported.***

Nevertheless, product functional development expenditure also has no significant effect on customer acceptance (β_1 = .101, p > .10), goal achievement (β_{22} = .004, p > .10), and firm sustainability (β_{29} = -.019, p > .10).

Product functional development expenditure has no positive influence on customer acceptance of which the results contain opposite expectations. However, previous research has found that the cost information in concluding product development expenditure may serve as a parlous distraction, focusing on interest designers who have to consider the cost and stay away from other purposes, such as the product features. The result may be defective products that do not meet the needs of customers (Booker, Drake and Heitger, 2007). Another reason is that some types of customers are more likely to view the product as meeting their requirements and low price which may be the conditions of a competitive marketplace, and those customers usually compare products at low prices. Thus, price reductions may improve the customer-perceived worth relative to the price of the product (Gale, 1994; Slater and Narver, 2000).

Product functional development expenditure has no positive influence on goal achievement. The possible explanation is that changes in the competitive landscape and increased global competition necessitate accurate product costing (Cooper, 1988), but achieving accurate product costs are difficult (Lamminmaki and Drury, 2001). In addition, the issue of production costs in new product development (NPD) is a major problem for many companies that received the majority of the cost of the product being limited in the design process and completion is reduced significantly by subsequent manufacturing process changes (Davila and Wouters, 2004; Cooper and Chew, 1996).

Product functional development expenditure has nopositive influence on firm sustainability. It is possible that this is caused from a firm that has several limitations in modifying its accounting practices function link with research and development, including culture organization, laws, regulation, and individual. In the existing literature, developing teams is a scarce resource inproject development and recommended shifting the focus on cost may not be the best course of action since technology, time-to-market, or customer needs are important to a project's success. The work of Davila and Wouters (2004) points out that the two factors driving the use of different methods to manage product development costs are (1) the important criteria other than the cost of quality and (2) the difficulty in building model cost behavior of resource-sharing. According to the research above, it can be claimed that only product functional development expenditure does not directly affect business sustainability. It must rely on vast resources and the need to connect business processes across department, and strategic levels. Accordingly, Mcphee (2014) supported that a sustainable model that recognizes that flexibility and long-term value of a firm are not just created by a collection of products, but it consists of people, systems, and ideas that are the foundation of a firm.

As mentioned above, product functional development expenditure has no positive influence on customer acceptance, goal achievement, and firm sustainability. ***Therefore, Hypotheses 1a, 1d, and 1e, are not supported.***

Secondly, dynamic customer learning cost (Hypotheses 2a-e). The results indicate that dynamic customer learning cost has significant effects on goal achievement (β_{23} = .282, p < .01). The results support the hypothesized theoretical relationship that customer learning can support goal achievement. This is consistent with many researchers who found that customer learning is the capability of a firm to acquire, understand, disseminate, and utilize information from customers to develop a marketing strategy and create superior value for customers (Feng et al., 2012; Phokha and Ussahawanitchakit, 2010; Theoharakis and Hooley, 2008). In addition, firms can find business opportunity by using customer data analysis and taking advantage of relationships with a customer to increase market share (Kumar et al., 2009; Ramani and Kumar, 2008). Consistently, the study of Fuchs (2007) argues that learning about the customer leads to effective product development that helps firms focus on increasing customer interaction to help evaluate the value of the products and the

communication activities. Accordingly, the work of Jensen (2001) found that the customer information provides marketers with knowledge leads to improving product quality. ***Therefore, Hypothesis 2d is supported.***

Nevertheless, dynamic customer learning cost also has no significant effect on customer acceptance (β_2 = .099, p > .10), organizational excellence (β_9 = .034, p > .10), market reliability (β_{16} = .081, p > .10), and firm sustainability (β_{30} = .146, p > .10). These results can be interpreted that dynamic customer learning cost does not have a role in customer acceptance, organizational excellence, market reliability, and firm sustainability**.**

Inconsistent with the previous study of Jensen (2001), the presentation of customer information is useful to marketers with knowledge that leads to improve product quality. The possible explanation from the prior empirical study of Van-Triest and Fathy-Elshahat (2007) found that examination of the company's cost data for calculating customer profitability can be expected to take charge and shall be considered a cost object with customers. Research found that there is no significance between the score on using costing information for customer profitability calculations and the use of the customer as a cost object.

Furthermore, it is possible that it is caused from the quality of information and the communication process. More especially, the skill set required to implement a cost of quality system generally exceeds the individual skills of most managers because customer information is not about the individual; rather, it is about working effectively in team accounting and a marketing department. Thus, employees in several levels of an organization find it difficult to contribute to the same direction of customer vision. For the process to succeed, the cost of quality must facilitate a high degree of participation and support from all parties involved (Bottorff, 1997).

Another reason, and the possible explanation, is that, for firm sustainability, firms are required to use not only customer information, but they also need external and future information to also modify accounting practices function, including culture, laws, regulation, and individual (Chenhall, 2007). The dynamic customer learning cost is the only one component of information that firms need to use in an uncertain environment. Therefore, the variable, set narrowly, fails to show significance. This is the reason why many companies do not pay attention to dynamic customer learning cost.

As mentioned above, dynamic customer learning cost has no positive influence on customer acceptance, organizational excellence, market reliability, and firm sustainability. ***Therefore, Hypotheses 2a, 2b, 2c, and 2e are not supported.***

Thirdly, the results relate to defect prevention risk expenditure (Hypotheses 3a-e). The findings show that the relation between defect prevention risk expenditure has no significant relation with organizational excellence (β_{10} = -.111, p > .10), market reliability (β_{17} = .119, p > .10), goal achievement (β_{24} = .124, p > .10) and firm sustainability (β_{31} = .155, p > .10).

Interesting, the result shows that defect prevention risk expenditure has a negative influence on customer acceptance (β_3 = -.173, p < .01). The possible reason for this is that, considering the purpose of investing in prevention system to improve and control activities due to internal and external failures (Kanapathy and Rasamanie, 2011; Koch, Assuncao and Netto, 2012). However, when customers recognize that the company focuses on events or how to prevent risks. For example, the case vehicle manufacturing company restores some vehicle models because the risks that may occur a problem in the future. It is possible that customers may doubt and distrust in goods and services of the company. Due of customers understand that firms make the prevent activities because the product is defective and a consequence is that they are likely to reject the product of the firm. Thus, for an operation action on defect prevention risks the company should pay more attention to communication and establish relationships with customers achieve the correct understanding***.Thus, Hypothesis 3a is not supported.***

The results also show that defect prevention risk expenditure does not impact organizational excellence, market reliability, goal achievement, and firm sustainability. Contrast with a previous case study by Visawan and Tannock (2004), increased expenditure on appraisal and prevention caused a rapid reduction in total quality costs. The possible reason for this is that, it is caused from defining and measuring the problem of defect prevention risk cost and communication reporting. This is similar to prior evidence in the work of Roden and Dale (2001) who claimed that the difficulty of defining a quality cost system is explained, there are different approaches which can be used in identifying and measuring the costs involved in the quality process. This was supported by Paraschivescu (2016) who found that analysis, risk assessment, and

prevention in the areas of quality are a complex activity that needs a multidisciplinary approach to the culture of quality and accountability.

Another reason is the possible explanation is that the cost of quality information is confidential, complex, hard-to-reach, additional organizations absorb costing different; and these costs included waste cost, labor, and risk cost from manufacturing (Juran and Gryna, 1993). As a result, organizations lack quality cost information relate to risk a valid cause they do not know how such areas as a method, man, material, machine, and maintenance are needed more to be a consideration for investment to meet customer expectations in terms of risk management.

As mentioned above, defect prevention risk expenditure has no positive influence on all dimensions of strategic quality management costing including customer acceptance, organizational excellence, market reliability, goal achievement and firm sustainability. ***Therefore, Hypotheses 3b, 3c, 3d, and 3e are not supported.***

Fourth, the results relate to continuous improvement investment (Hypotheses 4a-e). The findings show that the relationship among continuous organizational improvement investments has a significant positive effect on customer acceptance (β_4 = .252, p < .05), organizational excellence (β_{11} = .483, p < .01), and market reliability (β_{18} = .226, p < .05).

Continuous organizational improvement investment has a positive influence on customer acceptance. This is consistent with prior research that suggests continuous improvement (CI) is a very important tool in today's manufacturing industry to increase customer satisfaction, which will lead to be a cost leader and can be competitive in today's global world (Janee, Islam, and Howe, 2013). Similarly, the purpose of continuous quality improvement (CQI) is to seek to improve quality and customer satisfaction for long-term results (Revere, Black and Huq, 2004), including a focus on customer requirements (Arthur, 2009).

In addition, improving the production method is a systematic approach to identify and eliminate waste through continuous improvement (CI) and it aims to provide products of the business, the attraction of customers in the pursuit of perfection (Bhuiyan and Baghel, 2005). Regardless, the cost of quality (COQ) model employed by companies that use COQ programs tend to continuously improve quality for customer demand (Schiffauerova and Thomson, 2006b).

Continuous organizational improvement investment has a positive influence on organizational excellence. This is similar to earlier evidence, which continues to invest in improvement of the quality improvement process within some organizations. Which although causing costs, it results in a significant reduction of costs due to better use of resources. Also the reduction of processes and tasks do not add value to the enterprise, helping organizations maximize efficiency and effectiveness (Alonso, Rodríguez and Rubio, 2012; Rubio, Del-Mar and Rodríguez, 2011; Rodriguez and Alonso, 2011). Furthermore, organizational improvement that has occurred on ongoing activities that are critical to the success of the organization, because having a good monitoring system of continuous improvement can create a standard inspection of the product and service. Also, it supports the implementation of an effective organization (Janee, Islam and Howe, 2013). In addition, in a study on organizational self-assessment by Benavent, Ros and Moreno (2004) it was found that the implementation of improvement activities in the organization will significantly increase the rating of the enterprise compared to its competitors. Lastly, CI is an important strategic tool for increasing competitive advantage in the enterprise (Marin, Val and Martin, 2008).

Continuous organizational improvement investment has a positive influence on market reliability. This is consistent with many researchers who found that the continued decline of product design and manufacturing lead times improve overall manufacturing lead times. The result is an organization that has more flexibility and agility through CI these companies can develop the capacity to respond to market changes very well (Oprime, Henrique and Pimenta, 2011).

As mentioned above, continuous organizational improvement investment has a positive influence on customer acceptance, organizational excellence, and market reliability. More specifically**,** Bechet, Wainwright and Bance (2000) emphasize the importance of cost information systems related to CI activities to facilitate the collection and analysis of data, processes, products, and the creation of performance indicators that can work at ease and support the continuous improvement activities of the organization. ***Therefore, Hypotheses 4a, 4b, and 4c are supported.***

Nevertheless, continuous organizational improvement investment also has no significant relationship to goal achievement (β_{25} = .058, p > .10) and firm sustainability (β_{32} = .146, p > .10). Regarding, this continuous organizational improvement investment

has no positive influence on goal achievement. The possible explanation is that continuous organizational improvement investment should have a competitive advantage and financial performance in the long-term, while a firm processes linkage interest and focuses on the short-term for operations. Furthermore, Bessant, Caffyn and Gallagher (2001) indicate that firms impossibly conduct the activities of CI to achieve it in one easy step because from behavior perspective supports that the proposed operations are required at five levels, from trying out ideas, through structure and CI system, CI strategy, autonomous innovation, and finally learning organization. Thus, CI can be successful after achieving these five levels.

Continuous organizational improvement investment has no positive influence on firm sustainability. The possible explanation from the existing literature, as in Platje (2008) argued that an institutional approach describes and analyzes the reasons for unsustainable development, and understands the reason for the difficulty. Under this condition, the test is a key factor that will help the industry in Malaysia to maintain continuous improvement (CI) in its business processes. It is to change the concept of CI that is the corporate culture. Moreover, organizations found that a culture of sustainable CI is very difficult. It changed employee behavior and ideas about how to improve part of their daily functions, especially in manufacturing industries (Janee, Islam and Howe, 2013).

In addition, CI activities can be created and sustained through a form of improvement models and the support of senior managers. It is not easy, in fact. The improvement models may fail without carefully examining problems in the activity (Easton and Jarrell, 1998; Wu and Chen, 2004). Finally, the past will be confirmed on the important quality management and CI is a current situation. However, what is not acceptable is that it repeatedly does not offer any solid foundation for success and sustainability (Johnson, 2003).

As mentioned above, continuous organizational improvement investment does not have a positive influence on goal achievement and firm sustainability. ***Therefore, Hypotheses 4d and 4e are not supported.***

Finally, value chain creativity budget (Hypotheses 5a-e) significantly and positively relates to customer acceptance (β_5 = .410, p < .01), organizational excellence (β_{12} = .202, p < .05), market reliability (β_{19} = .202, p < .05), goal achievement (β_{26} = .244, p < .05) and firm sustainability (β_{33} = .294, p < .01).

Value chain creativity budget has a positive influence on customer acceptance in accordance with previous research, successful value chains can be developed with an emphasis on the four practices that drive customer orientation. These are relationships, interactivity, valuing customers over time, and customization (Pitta, Franzak and Little, 2004). Identifying the activities in the value chain, identify the nature of activities that can be used to create value for customers in the future and identifying the nature of the product or service that can be offered to consumer activities can be accepted by customers (Coulter and Robbins, 2009).

Value chain creativity budget has a positive influence on organizational excellence. From the prior study, creativity is the ability to create or to be original, expressive, and imaginative; whereas creativeness is the creative potential or the capacity to be creative (DiLiello and Houghton, 2008). Thus, creativity in value chain creativity is a valued resource of a firm. Regarding creativity as the production of novel and useful ideas in any domain, innovation is the successful implementation within an organization (Giannopoulou, Gryszkiewicz and Barlatier, 2014). Likewise, the evidence indicates that providing information displays the differences that are more specific, identifying problems for modernization and creating a general idea. These things lead to the production of innovative, new alternatives that can be developed for commercial organizations to create a competitive business (Sarri, Bakouros and Petridou, 2010).

From a practical perspective, just-in-time (JIT) shares many principles with SCM which says that JIT is an example of one value chain that can be considered as an industry-specific SCM technique in the automotive industry (Narasimhan, Kim and Tan, 2008;Vanichchinchai and Igel, 2011; 2009). JIT aims to provide the right product, in the right amount, to the right customers, in the right place and the right time to eliminate all kinds of waste (Kannan and Tan, 2005; Tan et al., 2004).

Value chain creativity budget has a positive influence on market reliability. This is consistent with the work of Fang and Zou (2009) who argue that avalue chain within the business processes of supply chain management are the solution leading to marketing competitiveness. Regarding the relationship between market performance value chain, the work of Fearne, Garcia and Dent (2012) reported that value chain thinking is shared and perceived as a source of competitive advantage, which a firm can be information strategy share with trusted partners for adding value and analyzing the

market with differentiated products designed to increase profitability at all stages in the chain.

Value chain creativity budget has a positive influence on goal achievement. This is consistent with the study realized by Perez-Araos et al. (2006) who found that the ability to learn, acquire, foster and integrate relevant knowledge within the value chain of the organization has been recognized as one of the most important competencies that lead to successful achievement. Furthermore, the value chain is a tool that enables organizations to increase competitiveness by reducing costs or differentiate their products through the analysis of events that shows the difference clearly, which is a much needed impact on the production industry (Eades et al., 2002). Then, many firms can use the budget for controlling, planning purposes, and building value-added support for the organization to achieve its goals (Libby and Lindsay, 2010). In addition, this is consistent with Slater, Hult and Olson (2010) who suggest that increased capacity of creativity is the ability in responding to the business environment and developing new capabilities that lead to competitive advantage.

Value chain creativity budget has a positive influence on firm sustainability that is in congruence with the empirical research of Porter and Kramer (2011). They argue that value chain model is a good tool for establishing sustainability in business strategy. Consistently, Hopkins (2009) confirms that value chain thinking is unique from supply chain thinking, and provides capability in an internal business environment for the development of sustainable competitive advantage. In addition, from a practical perspective, training employees performs a strategic analysis of the environment of the company, value chain analysis, and cost-per-unit of production. As a result, organizations can achieve sustainable competitive advantage through their strategy to reduce costs and make a difference (Alnawaiseh, AL-Rawashdi and Alnawaiseh, 2014).

Regarding the cost accounting function within the value chain in the existing literature, collecting a data trust account that is to coordinate and achieve homogeneity between activities across the value chain (Dekker, 2003). Links in the value chain can gain a competitive advantage (Ensign, 2001). Evidence in study of Cinquini et al. (2015) showed that the increased record about interesting expenses that can have a data center to be responsible for expenditures of customers and the cost of the supply chain. It can be considered as enlarging the role of cost information for the purpose that can be

used to decide in a correct and timely manner. Similarly, the resulting information shows that the cost of each customer, and the actual cost of each activity results in the cost of the activity or function of the department. This costing information within chains can be used to manage corporate decisions based on such information. As a result, the cost drivers can achieve more efficiency and less wastage (Popesko, Papadaki and Novák, 2015).

In summary, these findings reveal that five dimensions of strategic quality management costing, including product functional development expenditure, dynamic customer learning cost, continuous organizational improvement investment, and value chain creativity budget, have a positive influence directly on its consequence variable, except for defect prevention risk expenditure. ***Therefore, Hypothesis 5 is fully supported. Moreover, all of Hypotheses 1, 2 and 4 are partially supported. Nevertheless, Hypothesis 3 is not supported.***

Table 9 The Results of OLS Regression Analysis of Strategic Quality Management Costing and Its Consequence Variables

Independent Variables	Hypotheses	Dependent Variables				
		CA (Eq.1)	OE (Eq.2)	MR (Eq.3)	GA (Eq.4)	FT (Eq.5)
Strategic Quality Management Costing:						
Product functional development expenditure (PFD)	(H1a-e)	.101 (.183)	**.177**** (.075)	**.193**** (.079)	.004 (.085)	-.019 (.084)
Dynamic customer learning cost (DCL)	(H2a-e)	.099 (.096)	.034 (.087)	.081 (.091)	**.282***** (.099)	.146 (.097)
Defect prevention risk expenditure (DPE)	(H3a-e)	**-.173*** (.094)	-.111 (.085)	.119 (.089)	.124 (.097)	.155 (.095)
Continuous organizational improvement investment (COI)	(H4a-e)	**.252**** (.097)	**.483***** (.088)	**.226**** (.092)	.016 (.100)	.146 (.098)
Value chain creative budget (VCC)	(H5a-e)	**.410***** (.099)	**.202**** (.089)	**.202**** (.093)	**.244**** (.102)	**.294***** (.100)
Control Variables:						
Firm age (AGE)		**.338**** (.149)	.118 (.136)	-.056 (.142)	-.013 (.154)	.183 (.151)
Firm size (SIZE)		-.016 (.055)	**.111**** (.050)	**.121**** (.052)	**.136**** (.057)	**.114**** (.056)
Adjusted R^2		.404	.508	.464	.367	.389
Maximum VIF		3.157	3.157	3.157	3.157	3.157

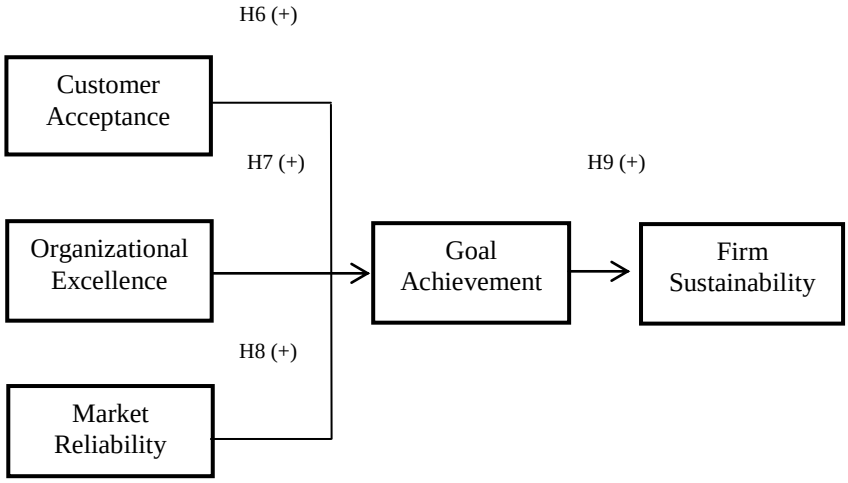
*** p<0.01, ** p<0.05

Beta coefficients with standard errors in parenthesis

For the two control variables, the results indicate that firm age has a significant positive relationship with customer acceptance (β_6 = .338, p < .05), meaning that a firm with more than 15 years in business operation has positive customer acceptance. However, firm age does not reflect a focus on organizational excellence (β_{13} = .118, p> .10), market reliability (β_{20} = -.056, p > .10), and goal achievement (β_{27} = -.013, p> .10), and firm sustainability (β_{34} = .183, p > .10). It may imply that the period of time in operating a business does not impact organizational excellence, market reliability, goal achievement, and firm sustainability.

Then, the results indicate that firm size has a significant, positive relationship with organizational excellence (β_{13} = .111, p < .05), market reliability (β_{21} = .121, p <.05), goal achievement (β_{27} = .136, p < .05) and firm sustainability (β_{35} = .114, p<.05). It implies that firms with a higher number of employees have more organizational excellence and goal achievement than firms with lower number of employees. Consistent with Joshi, (2001) suggests that firm size is an important factor for the design and implement about costing information of firm because as large organizations have more resources support, and is likely to achieve more business with less resources. However, the result shows that firm size does not impact customer acceptance (β_7 = .008, p >.10). It implies that the number of employees of a firm has no impact on customer acceptance.

Figure 8 Results of the Effects of Customer Acceptance, Organizational Excellence, and Market Reliability on Firm Sustainability



This research hypothesizes that customer acceptance, organizational excellence, market reliability, goal achievement and firm sustainability positively influence goal achievement. Table 10 shows the correlation coefficients between customer acceptance, organizational excellence, market reliability, goal achievement and firm sustainability. It presents that customer acceptance has a significant and positive correlation with organizational excellence, market reliability, goal achievement and firm sustainability (r = .769, p < .05; r = .662 p < .05; r =.573 p < .05; r = .610

p < .05, respectively). Then, organizational excellence has a significant and positive correlation with market reliability, goal achievement and firm sustainability (r = .735, p < .05; r = .666, p < .05; r = .656, p < .05 respectively). Furthermore, market reliability has a significant and positive correlation with goal achievement and firm sustainability (r = .755, p < .05; r = .704 p < .05, respectively).

Finally, goal achievement has a significant and positive correlation with firm sustainability (r = .724, p < .05). Most of these correlation coefficients are less than 0.9. Consequently, overall, multicollinearity problems are not a concern for this analysis (Hair et al., 2010).

Table 10 Descriptive Statistics and Correlation Matrix of Customer Acceptance, Organizational Excellence, Market Reliability, Goal Achievement and Firm Sustainability

Variables	CA	OE	MR	GA	FT	FA	FS
Mean	4.20	4.09	3.90	3.83	3.97	n/a	n/a
S.D.	.53	.53	.55	.54	.52	n/a	n/a
CA	1						
OE	.769***	1					
MR	.662***	.735***	1				
GA	.573***	.666***	.755***	1			
FT	.610***	.656***	.704***	.724***	1		
FA	.126	.083	.020	.030	.095	1	
FS	.007	.128	.105	.109	.105	.190**	1

*** Correlation is significant at the 0.01 level (2-tailed)

** Correlation is significant al the 0.05 level (2-tailed)

Most of these correlation coefficients are less than 0.9. Consequently, overall, the multicollinearity problems are not a concern for this analysis (Hair et al., 2010). Furthermore, with regard to the multicollinearity problem, VIF is used to test the correlation among independent variables (see Table 11). In this analysis, the maximum value of VIF is 3.219, being less than 10, and indicating that there are no significant multicollinearity problems confronted (Hair et al., 2010).

Table 11 presents the results of the OLS regression analysis of the impact on strategic quality management costing consequences on firm sustainability, which are followed by Hypotheses 6 to 8, which evidence in Table 10 indicates that customer acceptance has no significance for goal achievement (β_{36} = .016, p > .10). A possible reason is that customer acceptance does not exist anymore as a separate discipline to all firms without regarding for the underlying values, goals, and organizational strategy.

Another reason is possible in accordance with the work of Zollo and Winter (2002). They investigated that customer behavior has an effect on service effectiveness, and also found that it does not affect the advantage of the service, but has an indirect effect on marketing performance. Thus, this result can be interpreted that customer acceptance cannot directly affect goal achievement. It may need to rely on other factors to indirectly stimulate that which is affected. In addition, Homburg, Droll and Totzek (2008) point out that firms should implement a differentiated use of marketing resources by properly allocate resources into the CRM system. It is difficult to achieve a growth rate of profit and market share increase on the target if a firm cannot utilize and allocate those appropriate resources. Hence, customer acceptance has shown no relationship with goal achievement. **Therefore, Hypothesis 6 is not supported.**

Then, the results indicate that organizational excellence has significant and positive relationships to goal achievement (β_{37} = .231, p < .01). In accordance with previous research, Al-Dhaafri, Yusoff and Al-Swidi (2013) found that organizational excellence has a positive and significant effect on organizational performance. Similarly, the recent studies conducted by Antony and Bhattacharyya (2010) suggest that excellence is redefined as the ability or capacity of one performance variable to affect or influence the other performance variables in an organization. The finding is also consistent with Ooncharoen and Ussahawanitchakit (2008) who argue that organizational excellence helps managers build differentiation in a better way than organizational performance. Likewise, the result in more effectiveness and efficiency in operation of a firm is an important factor for improving the decision-making process through the supply of appropriate and timely information (Ditkaew and Ussahawanitchakit, 2010).

In addition, this result is also according to resource-based view theory has stated that appropriate, presenting internal resources as a crucial element to gain a sustained competitive advantage and superior performance that are operational excellence (Barney, 2001; Ferreira and Azevedo, 2007). Hence, organizational excellence helps enhance goal achievement. **Therefore, Hypothesis 7 is supported.**

Lastly, the results indicate that market reliability has significant and positive relationships to goal achievement (β_{38} = .573, p < .01). In accordance with previous research, Oly-Ndubisi (2012) confirmed that achieving reliability and high-quality standards are organizational capabilities with immense benefits. Further, empirical research of Morgan (2012) argued that marketing performance is the capability of a firm to increase sales volume and it is the ultimate organizational goal in terms of financial performance. Similarly, Hooley et al. (2005) argued that marketing performance likely results in financial performance. This implies that marketing performance is the firm's ability to perform the promised service consistently, dependably, and accurately. The study realized by Cook et al. (2002) confirms that expressive beliefs, trust, and dependability are the most important dimension in assessing the product and service quality and therefore, a fundamental requirement for businesses to compete in the marketplace. Hence, market reliability helps enhance goal achievement**. Therefore, Hypothesis 8 is supported.**

For the two control variables, the results indicate that firm age has a negative relationship with goal achievement (β_{39} = -.015, p >.10), but it is not significant. It may imply that firm age does not impact goal achievement. Firm size has no significant relationship with goal achievement (β_{40} = .019, p > .10), meaning that firm size does not impact goal achievement.

Table 11 The Results of OLS Regression Analysis among Customer Acceptance, Organizational Excellence, Market Reliability, Goal Achievement and Firm Sustainability

Independent Variables	**Hypotheses**	**Dependent Variables**	
		GA (Eq.6)	**FT (Eq.7)**
Customer acceptance (CA)	(H6)	.016	
		(.076)	
Organizational excellence (OE)	(H7)	**.231*****	
		(.083)	
Market reliability (MR)	(H8)	**.573*****	
		(.070)	
Goal achievement (GA)	(H9)		**.721*****
			(.050)
Control Variables :			
Firm age		-.015	.187
(AGE)		(.125)	(.133)
Firm size		.019	.012
(SIZE)		(.047)	(.049)
Adjusted R^2		.587	.523
Maximum VIF		3.219	1.049

*** p<0.01, ** p<0.05, * p<0.10

Beta coefficients with standard errors in parenthesis

With regard to Hypothesis 9, it has been demonstrated that goal achievement increase has significant and positive effects on firm sustainability (β_{41} = .721, p < .01). Goal achievement is focused on the company's ability to generate opportunities through business process that continues to increase their profits, market share, and competition in the future (Modi and Mishra, 2011; Sampattikorn, Ussahawanitchakit and Boonlua, 2012).Thus, goal achievement is the result of the firm’s operation to be a key driver factor that can further its economic sustainability by increasing its social and ecological efficiency. **Therefore, Hypothesis 9 is supported.**

For the two control variables, firm age and firm size has no significant relationship with firm sustainability (β_{42} = .187, p > .10; β_{43} = -.012, p > .10), meaning that firm age and firm size do not impact firm sustainability.

The Effects of the Antecedents on Each Dimension of Strategic Quality Management Costing

The effects of antecedents of each dimension of strategic quality management costing are shown in figure 9. Table 12 shows the correlation between the independent and dependent variables. The four independent variables include long-term vision, best accounting system, proactive accounting practice, market competition, and stakeholder requirements in hypotheses 10(a-e) to 14(a-e), respectively. These hypotheses are analyzed from the regression equations in models 13 to 17. The dependent variables consist of four dimensions of strategic quality management costing that are combined. Product functional development expenditure, dynamic customer learning cost, defect prevention risk expenditure, continuous organizational improvement investment, and value chain creativity budget are included. This research predicts that all antecedents are positively related to the five dimensions of strategic quality management costing as illustrated in Figure 9.

Figure 9 Results of the Effects of Antecedents on Strategic Quality Management Costing

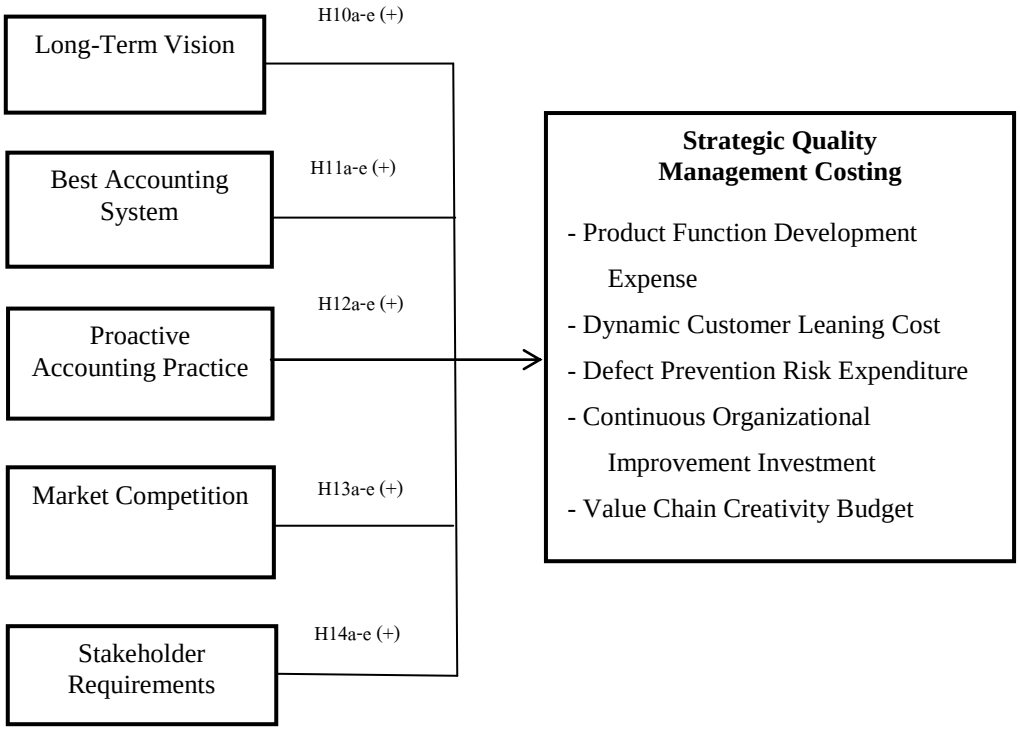


Table 12 shows the correlation between the independent and dependent variables.The results explain that long-term vision has a significant and positive correlation with product functional development expenditure, dynamic customer learning cost, defect prevention risk expenditure, continuous organizational improvement investment, and value chain creativity budget ($r = .518$, $p < .05$; $r = .536$, $p < .05$; $r = .542$, $p < .05$; $r = .617$, $p < .05$; $r = .640$, $p < .05$, respectively).

Then, best accounting system significantly and positively correlates with product functional development expenditure, dynamic customer learning cost, defect prevention risk expenditure, continuous organizational improvement investment, and value chain creativity budget ($r = .395$, $p < .05$; $r = .469$, $p < .05$; $r = .476$, $p < .05$; $r = .586$, $p < .05$; $r = .583$, $p < .05$, respectively).

Furthermore, proactive accounting practice significantly and positively correlates with product functional development expenditure, dynamic customer learning cost, defect prevention risk expenditure, continuous organizational improvement investment, and value chain creativity budget ($r = .434$, $p < .05$; $r = .481$, $p < .05$; $r = .529$, $p < .05$; $r = .629$, $p < .05$; $r = .619$, $p < .05$, respectively). Besides, market competition significantly and positively correlates with product functional development expenditure, dynamic customer learning cost, defect prevention risk expenditure, continuous organizational improvement investment, and value chain creativity budget ($r = .316$, $p < .05$; $r = .384$, $p < .05$; $r = .277$, $p < .05$; $r = .477$, $p < .05$; $r = .507$, $p < .05$, respectively). Finally, stakeholder requirement significantly and positively correlates with product functional development expenditure, dynamic customer learning cost, defect prevention risk expenditure, continuous organizational improvement investment, and value chain creativity budget ($r = .389$, $p < .05$; $r = .403$, $p < .05$; $r = .423$, $p< .05$; $r = .528$, $p < .05$; $r = .574$, $p < .05$, respectively).

Table 12 Descriptive Statistics and Correlation Matrix of Strategic Quality Management Costing and Its Antecedents

Variables	PFD	DCL	DPR	COI	VCC	LT	BA	PA	MC	SR	AL	FA	FS
Mean	4.19	4.27	4.21	4.23	4.11	4.19	4.24	4.19	4.33	4.32	4.21	n/a	n/a
S.D.	.56	.53	.54	.52	.60	.54	.57	.56	.52	.50	.52	n/a	n/a
PFD	1												
FDCL	.722***	1											
DPR	.636***	.750***	1										
COI	.494***	.543***	.615***	1									
VCC	.503***	.537***	.632***	.805***	1								
LT	.518***	.536***	.542***	.617***	.640***	1							
BA	.395***	.469***	.476***	.586***	.583***	.672***	1						
PA	.434***	.481***	.529***	.629***	.619***	.675***	.823***	1					
MC	.316***	.384***	.277***	.477***	.507***	.557***	.570***	.611***	1				
SR	.389***	.403***	.423***	.528***	.574***	.653***	.600***	.644***	.762***	1			
AL	.443***	.440***	.455***	.593***	.565***	.646***	.791***	.827***	.484***	.581***	1		
FA	.056	.039	.024	.029	-.030	.098	.089	.101	.021	.101	.093	1	
FS	.007	-.059	-.070	.006	-.024	.130	.117	.095	.095	.117	.080	.190**	1

*** Correlation is significant at the 0.01 level (2-tailed),

** Correlation is significant al the 0.05 level (2-tailed)

Most of these correlation coefficients are less than 0.9. Consequently, overall, the multicollinearity problems are not a concern for this analysis (Hair et al., 2010). With regard to the multicollinearity problem, VIF is used to test the correlation among independent variables (see Table 13). In this analysis, the maximum value of VIF is 3.653, which is less than 10, indicating that there are no significant multicollinearity problems confronted (Hair et al., 2010). Table 13 presents the results of the OLS regression analysis of Hypotheses 10 to 14 that propose the effects of long-term vision, best accounting system, proactive accounting practice, market competition, and stakeholder requirements.

Firstly, as to the long-term vision hypotheses, the results show long-term vision has significant positive impact on all five dimensions of strategic quality management costing; the results also indicate that long-term vision significantly and positively affect product functional development expenditure (β_{44} = .411, p < .01), dynamic customer learning cost (β_{51} = .374, p < .01), defect prevention risk expenditure (β_{58} = .344, p < .01), continuous organizational improvement investment (β_{65} = .307, p < .01) and value chain creativity budget (β_{72} = .336, p < .01).

The results support the hypothesized theoretical relationship that long-term vision can support dimensions of SQMC. This is consistent with many researchers who show that the quality management system contributes to a company's performance through the implementation of the company's vision and mission, and to strategic goals associated with them both Empirical research (Dimara et al., 2004; Sharma and Gadenne, 2002; Van-Der and Brown, 2002). Then, Revilla and Rodriguez (2011) describe vision in terms of something that helps clarify the direction toward product development. Furthermore, vision positively influences the outcomes of the organization such as motivating employees to work hard, commitment of the organization, and corporate reputation (Fanelli, Misangyi and Tosi, 2009). This is similar to Carmen et al. (2006) who explain vision in terms of team direction, goals and objectives.

For the relationship of long-term vision and strategic quality management costing the empirical research of Prasong, Ussahawanitchakit and Muenthaisong (2013) suggested that the executive's vision is an important factor in supporting and promoting the implementation of strategic managerial accounting capability. In accordance with Komala (2012), top management long-term vision positively influences strategic managerial accounting capability. Then, Foster and Akdere (2007) indicated that long-term vision relates to strategic management such as in strategic cost management. Further, as in all manufacturing companies, it is necessary to establish long-term cooperative relationships with suppliers, the supplier quality management (Saraph, Benson and Schroeder, 1989).

As mentioned above, this research can confirm that long-term vision influences product functional development expenditure, dynamic customer learning cost, defect prevention risk expenditure, continuous organizational improvement investment and value chain creativity budget. ***Therefore, Hypotheses 10a -10e are fully supported.***

Secondly, for best accounting system, the results demonstrate that it does not significantly affect all dimensions of strategic quality management costing: product functional development expenditure (β_{45} = -.030, p > .10), dynamic customer learning cost (β_{52} = .099, p > .10), defect prevention risk expenditure (β_{59} = .033, p > .10), continuous organizational improvement investment (β_{66} = .088, p > .10) and value chain creativity budget (β_{73} = .079, p > .10). These results indicate that best accounting system does not impact the relationship with all dimensions of strategic quality management costing.

Inconsistent prior research suggests that best accounting system for effective controls is established to gather, record, classify, analyze, summarize, interpret, and presents accurate and timely accounting information for management decisions (Zhang and Zhou, 2007). This result may be the possible explanation of strategic quality management cost that would be helpful to understand the real quality cost (product, customer, prevention, continuous improve and value chain costs). However, these are also difficult for the behavioral aspects of cost of quality. Although, best accounting system can generate accounting information, it may not have enough influence to affect dimension of influences on strategic quality management cost.

Another problem is integration of quality cost and accounting practices. This research is confirmed by Sedevich-Fons (2012) who suggested that the accounting systems' missions may provide lack different kinds of users with quality cost information to make decisions. This account system should generate cost of quality reports for internal user, who typically require more detailed information regarding performance causes, such as indicators about customer satisfaction, process efficiency and employee competence. In addition, despite the fact of having to implement a quality management system (QMS) many companies have found that they never have QMS integration activities; they have the dynamic between the accounting process and quality. This supported best accounting techniques to account for the change in the role of accounting information system, and manage an automated system that is flexible for the situation and increase the overall wealth of the organization (Bolwijn and Kumpe, 1990).

More specifically**,** a traditional accounting system generates error in the calculation of quality costs due to the accounting system being a closed system. A closed system means a system that interacts with the external components, such as suppliers and customers (Yasin, Bayes and Czuchry, 2005). Therefore, best accounting system has no relationship with all dimensions of strategic quality management costing including product functional development expenditure, dynamic customer learning cost, defect prevention risk expenditure, continuous organizational improvement investment, and value chain creativity budget. ***Thus, Hypothesis 11b is supported.***

Thirdly, for proactive accounting practice, the results show that it has a significant, positive impact on three dimensions of strategic quality management

costing.The results also indicate that proactive accounting practice significantly and positively affect defect prevention risk expenditure (β_{60} = .325, p < .01), continuous organizational improvement investment (β_{67} = .295, p < .01) and value chain creativity budget (β_{74} = .225, p < .01).These results demonstrate that it has a significant, positive effect on proactive accounting practice and defect prevention risk expenditure, continuous organizational improvement investment and value chain creativity budget.

In consistent prior research suggests that there is a rapidly changing technological and organizational environment. As a result, the management accounting changes, and finds that accountants are focused more on the "proactive" accountant who became part of the management team in the business process (Burns and Scapens, 2000). Moreover, proactiveness is one factor that has positive influence on firm performance (Avlonitis and Salavou, 2007; Perks and Hughes, 2008). Accordingly, the study of Hughes and Morgan (2007) supports that proactiveness a forward-looking perspective in which the firm seeks opportunities to improve products and marketing performance.

The evidence indicates that accounting practice is not just limited to the provision of financial reports. It also provides support in other areas, such as creating corporate strategy (Anderson et al., 2008; Skaerbaek and Tryggestad 2009). Moreover, the accounting system has always been designed to detect, analyze and disseminate knowledge in a way that is useful to decision makers (Howieson, 2003).

For the influence of proactive accounting practice and value chain, the work of Cloud (2000) argues that management accounting must be provided with customer-oriented information. Finance accounting professionals which need to offer the side-effects of standard costs on the financial impact of the current practice, and focus their organizations on the effects of supply chain management. Furthermore, the accounting practice should focus on the financial or economic events with integrated subsystems of the period. The system can be combined and summarized by a subsystem general ledger and financial reporting. The accounting practice, discipline and practice calculative are the estimated costs resources allocation, cost, procedure and budget (Quattrone, 2009).

As mentioned above, this research can confirm that proactive accounting practice influences defect prevention risk expenditure, continuous organizational improvement investment and value chain creativity budget. ***Therefore, Hypotheses 12c, 12d and 12e are supported.***

Conversely, proactive accounting practice has no significant effect on product functional development expenditure (β_{46} = .170, p > .01), and dynamic customer learning cost (β_{53} = .132, p > .10). The results of this research show that proactive accounting practice has no significant effect on product functional development expenditure and dynamic customer learning cost.

On the basis of the literature reviewed, understanding and concern about the market of companies translate customer requirements into the operations of other departments involved (Engelen and Brettel, 2012). Furthermore, management accounting practices are likely to develop much of discipline across party lines, specific direction, including performance management, information, and strategic management. Thus, accounting practice encourages and motivates managers and other employees for the use of knowledge and information technology for focusing on customer's requirements by providing customer satisfaction (Talha, Raja and Seetharaman, 2010).

From the prior research above, it is clear that proactive accounting practice proactiveness does not respond to product functional development expenditure and dynamic customer learning cost because that lack of management accountant expertise is about dynamic customer cost and production function development that affects development's management accounting slower. In addition, the accounting department may fail to be aware of the benefits of operating accounts and issue new management accounting practices that are affected by the size of the organization, manufacturing industry or corporate strategy itself.

From the reasons above, this research can confirm that proactive accounting practice has no influences on product functional development expenditure and dynamic customer learning cost. ***Therefore, Hypotheses 12a and 12b are not supported.***

Fourthly, the results demonstrate that market competition does not significantly affect all dimensions of strategic quality management costing which are: product functional development expenditure (β_{47} = -.052, p > .10), dynamic customer learning cost (β_{54} = .067, p > .10), defect prevention risk expenditure (β_{61} = -.264, p <.01), continuous organizational improvement investment (β_{68} = .022, p > .10) and value chain creativity budget (β_{75} = .022, p > .10).

The results reveal that market competition does not influence on product functional development expenditure (β_{47} = -.052, p > .10). From a theoretical

perspective the effect of market competition in view of the contingent theory a firm may choose to use other strategies such as resource integration, share information, and increase network partners more than product functional development. Consistently, Nyamori, Perera and Lawrence (2001) conducted a literature review and suggested that different types of accounting information may be suited to different ways of competing or strategies approach. ***Thus, Hypothesis 13a is not supported.***

The results reveal that market competition does not influence on dynamic customer learning cost (β_{54} = .067, p > .10). From a practical perspective, the literature claims that, in some cases, it may require a decision by a manager of the company without the opportunity for employees to express their opinions. Thus, making-decision has awareness of employee participation in the circumstances (Chitmun, Ussahawanitchkit and Boonlua, 2012). Thus, the evidence seems to indicate that market competition information of the market department may be ignored and a consequence is that a firm does not have to focus on customer learning. ***Thus, Hypothesis 13b is not supported.***

Surprisingly, the results reveal that market competition has a negative influence on defect prevention risk expenditure (β_{61} = -.264, p <.01). The possible reason for this is that, when consider the purpose of prevention system to improve and control activities relate to internal and external failures (Kanapathy and Rasamanie, 2011; Koch, Assuncao and Netto, 2012). However, when the firm must face with intense market competition that they may have a ready and capable of managing the problems on differently which is consistent with contingency theory. Thus, ISO 9000 manufacturing company operate under quality management system, when these companies faced with intense market competition they are likely to ignore the cost information on investing in prevention because they have confidence in the system to prevent risks acceptable. In contrast these companies are to the focus on marketing information. ***Thus, Hypothesis 13c is not supported.***

The results reveal that market competition does not influence on continuous organizational improvement investment (β_{68} = .022, p > .10). According to contingency theory, the firm faced with intense market competition, they are more focusing on strategy approach that is consistent with the external environment. These factors have influence of design increasing modern management accounting practices (Baines and Langfield-Smith, 2003). However, a firm usually takes into account the internal

resources for the budget allocated to the organizational improvement development of all systems which affects available resources must be distributed to adequately and more appropriately.As the results, market competition does not make the investments throughout the enterprise but a deal or solution specific problems. ***Thus, Hypothesis 13d is not supported.***

The results reveal that market competition does not influence on value chain creativity budget (β_{75} = .022, p > .10). In accordance with previous research, Mahapatra and Narasimha (2012) examined the influence of competition intensity and found that the competition intensity does not lead to higher investment, development of higher supplier, or relational orientation. Thus, the firms can monitor the environment both inside and outside of the organization. Those companies usually have long-term planning, operational support, or prevent situations where market reversal is higher. Also research has shown an opposite effect such as in the work of Laonamtha and Ussahawanitchakit (2012) founded that changes in the environment, economy, society, and market competition do not affect managing the cost of research accounting modern. At this point, the explanation for this is to imply that the understanding of market competitive environment of manufacturing firms in this research does not affect value chain creativity budget. ***Thus, Hypothesis 13e is not supported.***

In summary, this research can confirm that market competition has no influences on strategic quality management costing, including product functional development expenditure, dynamic customer learning cost, defect prevention risk expenditure, continuous organizational improvement investment and value chain creativity budget. ***Thus, Hypotheses 13a, b, d and e are not supported.***

Finally, the results also indicate that stakeholder requirements (H14a-e) have significant and positive effects on two dimensions of strategic quality management costing: defect prevention risk expenditure (β_{62} = .191, p < .05) and value chain creativity budget (β_{76} = .167, p < .05).

In accordance with previous research, stakeholder requirements have been used to create a new model that contributes to improving the quality information of companies, which may little improve their performance. However, consideration of better requirements increases understanding of the overall information that will have significant benefits to both companies and stakeholders (Laud and Schepers, 2009).

Likewise, stakeholder management affects transparent financial reporting of organizations (Mattingly, Harrast and Olsen, 2009). Thus, the pressure of stakeholders' influences can impact management decisions and the corporate strategy of the company (Eiadat et al., 2008).

Furthermore, Lee and Hutchison (2005), found that stakeholders, both inside and outside displayed great attention to the company's operations, which affect the accounting performance of the organization. The scope of operational framework for corporate responsibility of firms is caused by the context of corporate relationships with stakeholders (Neville, Bell and Menguc, 2005). Moreover, the companies have incentive to engage in stakeholder management by undertaking socially responsible activities and providing extensive information disclosure (Gelb and Stawer, 2001).

From a theoretical perspective, the work of Malmi and Granlund (2009) argues that the necessity and importance of theory in management accounting theory. These should be the reason for its use and how it is going to benefit all stakeholders. The contingency theory assumes that the organizational structure is based on both internal and external factors (Anderson and Lanen, 1999). Thus, stakeholder requirements are the factors that affect strategic management accounting. In this research, is strategic quality management costing.

Nevertheless, there are no significant relationships between stakeholder requirements and three dimensions of strategic quality management costing which are: product functional development expenditure (β_{48} = .076, p > .10), dynamic customer learning cost (β_{55} = -.021, p > .10), and continuous organizational improvement investment (β_{69} = .080, p > .10).

Based on the contingency theory, stakeholder requirements have different terms of importance and strength, which varies by the situation (Freeman, 1984; Hill and Thomas, 1992). Moreover, research by Buysse and Verbeke (2003) proposes that the importance of stakeholders is depends on period and industry. Similarly, stakeholder requirements may change together with interactions among diverse external and institutional support (Friedman and Miles, 2002). This is similar to the findings of this research which does not find any influence of stakeholder requirements on product functional development expenditure, dynamic customer learning cost, and continuous organizational improvement investment. ***Therefore, Hypotheses 14c and 14e are supported, but Hypotheses 14a, 14b and 14d are not supported.***

Table 13 Results of the Effects of Strategic Quality Management Costing and Its Antecedents

Independent Variables	Hypotheses	Dependent Variables				
		PFD Eq.8	DCL Eq.9	DPR Eq.10	COI Eq.11	VCC Eq.12
Long-term vision (LT)	(H10a-e)	**.411*****	**.374*****	**.344*****	**.307*****	**.336*****
		(.094)	(.090)	(.086)	(.080)	(.077)
Best accounting system (BA)	(H11a-e)	-.030	.099	.033	.088	.079
		(.114)	(.110)	(.105)	(.097)	(.094)
Proactive accounting practice (PA)	(H12a-e)	.170	.132	**.325*****	**.295*****	**.225****
		(.118)	(.114)	(.109)	(.101)	(.098)
Market competition (MC)	(H13a-e)	-.052	.067	**-.264****	.022	.022
		(.099)	(.096)	(.092)	(.085)	(.082)
Stakeholder requirements (SR)	(H14a-e)	.076	-.021	**.191***	.080	**.167****
		(.107)	(.104)	(.099)	(.092)	(.089)
Control Variables:						
FA (AGE)		.018	.018	-.087	-.087	**-.239***
		(.167)	(.161)	(.154)	(.143)	(.138)
FS (SIZE)		-.062	**-.133***	**-.136****	-.075	**-.099***
		(.062)	(.060)	(.057)	(.053)	(.051)
Adjusted R^2		.261	.311	.368	.458	.494
Maximum VIF		3.653	3.653	3.653	3.653	3.653

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

In conclusion, long-term vision, best accounting system, proactive accounting practice, market competition, and stakeholder requirements, which are the contingent factors, can influence strategic quality management costing. Especially, long-term vision is likely to increase all dimensions of strategic quality management costing (product functional development expenditure, dynamic customer learning cost, defect prevention risk expenditure, continuous organizational improvement investment, and value chain creativity budget). These results can be interpreted as strategic quality management costing that is improved for agreement with internal and external contingent factors. ***Thus, Hypothesis 10 is fully supported. Hypotheses 12 and 14 are partially supported, but Hypotheses 11 and 13 are not supported.***

For the control variable, firm age has no significant effects on the relationship among the antecedents, namely, product functional development expenditure (β_{49} = .018, p > .10), dynamic customer learning cost (β_{56} = .018, p > .10), defect prevention risk expenditure (β_{63} = -.087, p > .10), and continuous organizational improvement investment (β_{70} = -.087, p > .10). It may imply that there is difference in the period of business operation of the product functional development expenditure, dynamic customer learning cost, defect prevention risk expenditure, and continuous organizational improvement investment. Surprisingly, the results indicate that firm age has a significant negative relationship among the antecedents, namely, value chain creativity budget (β_{77} = -.239, p < .10). This means that a firm with more than 15 years in business operations has less value chain creativity budget. In accordance with previous researches, a new business is always involved in innovation it is simple to accepted innovation, and creative and new ideas (Ciabuschi, Perna and Snehota, 2012).

Lastly, the results indicate that firm size has a significant and negative relationship with dynamic customer learning cost (β_{57} = -.133, p < .10), defect prevention risk expenditure (β_{64} = -.136, p > .10), and value chain creativity budget (β_{78} = -.099, p < .10). Thus, a firm with a number of employees of more than 150 persons has less dynamic customer learning cost, defect prevention risk expenditure, and value chain creativity budget. Conversely, there are no significant relationships between firm size with product functional development expenditure (β_{50} = -.062, P > .10), and continuous organizational improvement investment (β_{71} = -.075, p > .10). This means that firm's number of employees has no relationship with product functional development expenditure, and continuous organizational improvement investment.

The Moderating Effects of Strategic Quality Management Costing

This research posits accounting learning as the moderating effects of the relationships among antecedent variables and each dimension of strategic quality management costing as shown in Figure 10. Table 12 shows the correlation coefficients among accounting learning and product functional development expenditure, dynamic customer learning cost, defect prevention risk expenditure, continuous organizational improvement investment, and value chain creativity budget (r = .443, p < .01; r = .440,

p < .01; r = .455, p < .01; r = .593, p < .01; r = .565, p < .01, respectively). For the correlations among the independent variables, including long-term vision, best accounting system, proactive accounting practice, market competition, and stakeholder requirements. The result shows that the correlation coefficient between accounting learning and market competition is the lowest (r = .484). Also, the correlation coefficient between accounting learning and proactive accounting practice is the highest (r =.827). Furthermore, the maximum value of VIF (5.436) as shown in Table 14 is lower than the cut-off value of 10. Thus, the multicollinearity problem is of no concern.

Figure 10 Results of the Moderating Effects of Accounting Learning

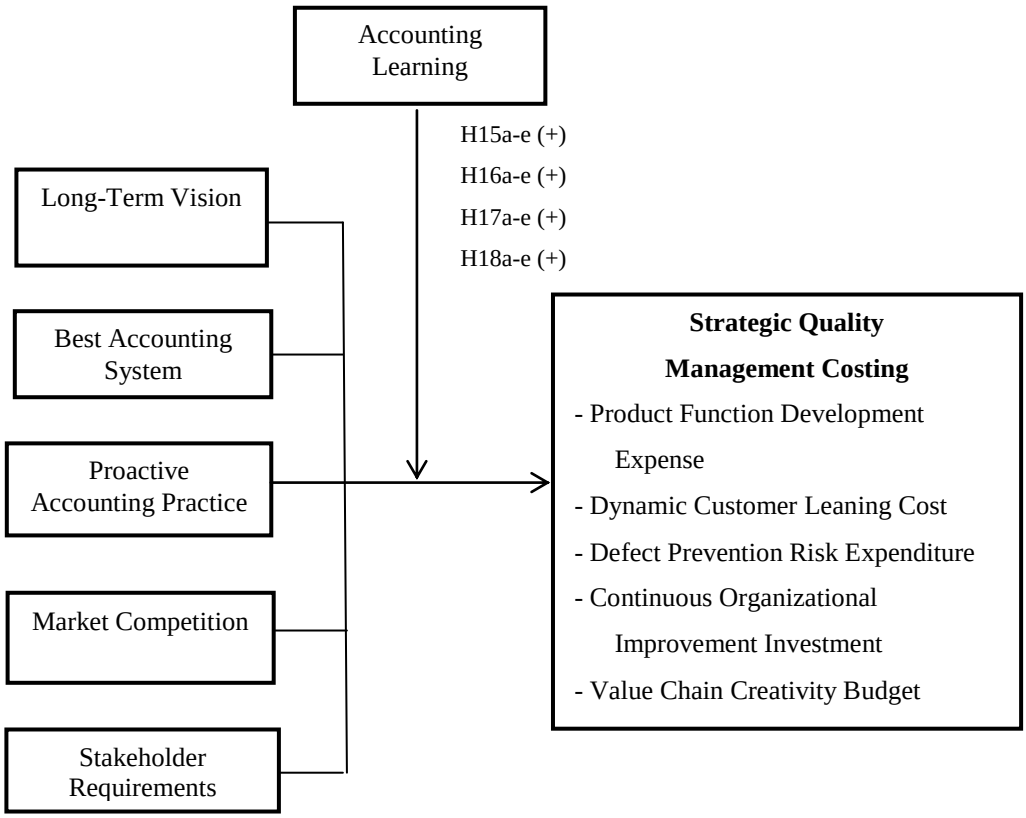


Figure 10 shows the results of Hypotheses 15 to 19. Firstly, the evidence indicates that accounting learning does not significantly moderate the relationships between long-term vision and product functional development expenditure (β_{85} = -.030, p > .10), dynamic customer learning cost (β_{98} = -.022, p > .10), defect prevention risk expenditure (β_{111} = .010, p > .10), continuous organizational improvement investment

(β_{124} = -.059, p > .10), and value chain creativity budget (β_{137} = -.029, p > .10). Although, intesting long-term vision is an antecedent variable in conceptual model in this research which is indicated that long-term vision has influence with all dimensions of strategic quality management costing. However, the most essential use of vision for organizations is that it leads to methods for attaining goals and objectives (Ozmen and Sumer, 2011). As the results, long-term vision is stated that would have transferred the vision from the executive to the employees. In addition, it needs to prepare a mission and commitment for each segment based organization structure. For accounting department must focus on the work experience integration in accounting learning used as a mission under organization vision it will help to achieve operations the ultimate goal.

Conversely, the long-term vision it might be stated that the vision is a future image of the businesswhich is non-substantial. Thus, if the account is assigned a mission to inaccurate or inconsistent with the vision the barrier would be followed. The accounting department requires coordination from all departments in the organization, so that barrier of accountants the lack of effort and lack the ability to learn in both teams and individual. At this point, accounting learning as a moderator has no moderating effects on long-term vision and product functional development expenditure, dynamic customer learning cost, defect prevention risk expenditure, continuous organizational improvement investment, and value chain creativity budget. ***Thus, Hypotheses 15a, b, c, d and e are not supported.***

Secondly, the results reveal that accounting learning as a moderator has no moderating effects on best accounting system and product functional development expenditure (β_{86} = -.015, p > .10), dynamic customer learning cost (β_{99} = .079, p > .10), defect prevention risk expenditure (β_{112} = -.023, p > .10), continuous organizational improvement investment (β_{125} = -.033, p > .10), and value chain creativity budget (β_{138} = -.005, p > .10). In accordance with testing best accounting system as an antecedent variable in conceptual model in this research which indicates that best accounting system does not impact the relationship with all dimensions of strategic quality management costing. Then, this research hypothesizes that the relationship between best accounting system and dimension of strategic quality management costing will be positively moderated by accounting learning, the results also indicate that there

are no relationships. Given this evidence, it can be seen that although important of best accounting system and accounting learning for management accounting, it is not enough to manage the quality cost system to be successful. Thus, these findings are consistent with the existing literature that factors for failure of quality cost program implementation are difficult measuring the cost of the system and the need to integrate the expertise of several parties (Chopara and Garg, 2011; Sedevich-Fons, 2012). Moreover, in this research, also testing in context of manufacturing industries which is organizational structure and business processes are the most very complex compared with other industries. ***Thus, Hypotheses 16a, b, c, d and e are not supported***.

Thirdly, the results reveal that accounting learning as a moderator has no moderating effects on proactive accounting practice,product functional development expenditure (β_{87} = .071, p > .10), dynamic customer learning cost (β_{100} = -.091, p > .10), defect prevention risk expenditure (β_{113} = -.031, p > .10), continuous organizational improvement investment (β_{126} = .003, p > .10), and value chain creativity budget (β_{139} = -.065, p > .10). Results may be possible in that the accountants of the company are not trained or experienced to be specific about quality management costing issues. Thus, regarding practical problems, they are unable to link to work as a strategy. Accordingly, Pretz (2008) argues that managerial accounting experience was successful in using strategies like strategic cost management, and also suggested that problem-solving performance should depend on the interactions of the strategies and the level of experience. Similarly, the study of Lin, Xiong and Liu (2005), point out the knowledge of accounting professionals of an accountant will be better completely needed those deserving the face of changing demands from the new business environment. ***Thus, Hypotheses 17a, b, c, d and e are not supported***.

Fourthly, the results reveal that accounting learning as a moderator has no moderating effects on market competition, product functional development expenditure (β_{88} = -.099, p > .10), dynamic customer learning cost (β_{101} = .130, p > .10), defect prevention risk expenditure (β_{141} = .165, p < .10), continuous organizational improvement investment (β_{127} = .011, p > .10), and value chain creativity budget (β_{140} = .043, p > .10). However, accounting learning as a moderator, has a significant and positive moderating effect on market competition and defect prevention risk expenditure (β_{141} = .165, p < .10).

Surprisingly, the results indicate that only the interaction between accounting learning and market competition with defect prevention risk expenditure has a significant, positive relationship (β_{141} = .165, p < .10). This research finds that accounting learning influences defect prevention risk expenditure through recognition market competition. It is interpreted as accounting learning on competitive environment, and is very significant in the context of the defect prevention risk expenditure of manufacturing industries. This was supported by Liu (2015) who defended strategic cost management as an important essential, for an enterprise to achieve advantages in modern and increasingly competitive markets. The Institute of Management Accountants (2008) suggested that management accounting has several functions and a broader working scope that covers the entire implementation of the organization. Furthermore, accounting learning is an important part of the accounting practice of creating and applying the knowledge of accounting with external factors in order to strengthen the competitive advantage of the organization (Damanpour, 1991). Thus, of course, effective accounting learning is absolutely essential to learn both internal and external factors. ***Thus, Hypothesis 18c is supported, but Hypotheses 18a, b, d, and e are not supported***.

Finally, the results reveal that accounting learning does not significantly moderate the relationships between stakeholder requirements and product functional development expenditure (β_{89} = .134, p > .10), dynamic customer learning cost (β_{102} = -.072, p > .10), defect prevention risk expenditure (β_{115} = -.004, p > .10), continuous organizational improvement investment (β_{128} = .091, p > .10), and value chain creativity budget (β_{141} = -.048, p > .10). Although, in testing stakeholder requirements as an antecedent variable in conceptual model in this research which indicates that stakeholder requirements has influence with some dimensions of strategic quality management costing. However, also it is not comprehensive of production function development expense, dynamic customer learning cost, and defect prevention risk expenditure. For testing the relationship between stakeholder requirements and dimension of strategic quality management costing, it will be positively moderated by accounting learning, which the results indicate that it does not significantly moderate. The possible explanation is that learning is the process of developing the knowledge and experience of the staff together, to increase the firm's ability (Jimenez and Valle, 2011).

However, accounting learning must be encouraged throughout an organization's structure that not only facilitates learning possibilities, but also rather supports taking on learning behavior (Blazevic and Lievens, 2004). At this point, organization learning should be the comprehensive requirement of stakeholder to create useful knowledge to enhance competitive advantage. ***Thus, Hypothesis 19a, b, c, d and e are not supported.***

Table 14 The Results of OLS Regression Analysis of Moderating Effect of Strategic Quality Management Costing

Independent Variables	**Hypotheses**	**Dependent Variables**				
		PFD Eq.13	**DCL Eq.14**	**DPR Eq.15**	**COI Eq.16**	**VCC Eq.17**
Long-term vision (LT)	(H15-19)	**.378*****	**.378*****	**.344*****	**.285*****	**.328*****
		(.095)	(.093)	(.087)	(.082)	(.079)
Best accounting system (BA)	(H15-19)	-.097	.107	.035	.031	.051
		(.125)	(.122)	(.115)	(.108)	(.104)
Proactive accounting practice (PA)	(H15-19)	.182	.121	**.397*****	**.225***	**.254****
		(.144)	(.140)	(.132)	(.124)	(.120)
Market competition (MC)	(H15-19)	.004	.048	**-.271*****	.057	.024
		(.104)	(.101)	(.095)	(.089)	(.087)
Stakeholder requirements (SR)	(H15-19)	.046	.006	**.235****	.076	**.164***
		(.110)	(.108)	(.102)	(.095)	(.092)
Accounting Learning (AL)	(H15-19)	.192	-.007	-.102	.144	.016
		(.123)	(.120)	(.113)	(.106)	(.103)
Moderator: Accounting Learning						
LT*AL	(H15a-e)	-.030	-.022	.010	-.059	-.029
		(.093)	(.090)	(.085)	(.080)	(.077)
BA*AL	(H16a-e)	-.015	.079	-.023	-.033	-.005
		(.115)	(.112)	(.106)	(.099)	(.096)
PA*AL	(H17a-e)	.071	-.091	-.031	.003	.065
		(.106)	(.103)	(.097)	(.091)	(.088)
MC*AL	(H18a-e)	-.099	.130	**.165***	.011	.043
		(.107)	(.104)	(.098)	(.092)	(.089)
SR*AL	(H19a-e)	.134	-.072	-.004	.091	-.048
		(.130)	(.127)	(.120)	(.112)	(.109)

Table 14 The Results of OLS Regression Analysis of Moderating Effect of Strategic Quality Management Costing (continued)

Independent Variables	Hypotheses	Dependent Variables				
		PFD Eq.13	DCL Eq.14	DPR Eq.15	COI Eq.16	VCC Eq.17
Control Variables:						
FA		.056	.017	-.060	-.082	-.233
(AGE)		(.169)	(.165)	(.156)	(.146)	(.142)
FS		-.062	**-.129****	**-.132****	-.065	**-.101***
(SIZE)		(.062)	(.061)	(.057)	(.054)	(.052)
Adjusted R^2		.259	.296	.374	.450	.483
Maximum VIF		5.436	5.436	5.436	5.436	5.436

*** p<0.01, ** p<0.05, * p<0.10

Beta coefficients with standard errors in parenthesis

For the two control variables, the results indicate that firm age has no significant relationship with product functional development expenditure (β_{90} = .056, p> .10), dynamic customer learning cost (β_{103} = .017, p > .10), defect prevention risk expenditure (β_{116} = -.060, p > .10), continuous organizational improvement investment (β_{129} = -.082, p > .10), and value chain creativity budget (β_{142} = -.233, p > .10). It interprets that the firm age has not influence on product functional development expenditure, dynamic customer learning cost, defect prevention risk expenditure, continuous organizational improvement investment, and value chain creativity budget.

Further, the results indicate that firm size has a significant and negative relationship with dynamic customer learning cost (β_{104} = -.129, p < .05), defect prevention risk expenditure (β_{117} = .132, < .05), and value chain creativity budget (β_{143} = -.101, p < .10). It may imply that firm's number of employees with more than 150 persons has less dynamic customer learning cost, defect prevention risk expenditure, and value chain creativity budget. Conversely, there are no significant relationships between firm size and product functional development expenditure (β_{91} = -.062, p > .10), and continuous organizational improvement investment (β_{130} = -.065, p > .10). It may imply that firm's number of employees has not influence on product functional development expenditure and continuous organizational improvement investment.

Table 15 Summary of the Results of Hypotheses Testing

Hypotheses	Description of Hypothesized Relationships	Results
H1a	The product function development expense will have a positive influence on customer acceptance.	Not Supported
H1b	The product function development expense will have a positive influence on organizational excellence.	Supported
H1c	The product function development expense will have a positive influence on market reliability.	Supported
H1d	The product function development expense will have a positive influence on goal achievement.	Not Supported
H1e	The product function development expense will have a positive influence on firm sustainability.	Not Supported
H2a	The dynamic customer learning will have a positive influence on customer acceptance.	Not Supported
H2b	The dynamic customer learning will have a positive influence on organizational excellence.	Not Supported
H2c	The dynamic customer learning will have a positive influence on market reliability.	Not Supported
H2d	The dynamic customer learning will have a positive influence on goal achievement.	Supported
H2e	The dynamic customer learning will have a positive influence on firm sustainability.	Not Supported
H3a	The defect prevention risk expenditure will have a positive influence on customer acceptance.	Not Supported
H3b	The defect prevention risk expenditure will have a positive influence on organizational excellence.	Not Supported
H3c	The defect prevention risk expenditure will have a positive influence on market reliability.	Not Supported

Table 15 Summary of the Results of Hypotheses Testing (continued)

Hypotheses	Description of Hypothesized Relationships	Results
H3d	The defect prevention risk expenditure will have a positive influence on goal achievement.	Not Supported
H3e	The defect prevention risk expenditure will have a positive influence on firm sustainability.	Not Supported
H4a	The continuous organizational improvement investment will have a positive influence on customer acceptance.	Supported
H4b	The continuous organizational improvement investment will have a positive influence on organizational excellence.	Supported
H4c	The continuous organizational improvement investment will have a positive influence on market reliability.	Supported
H4d	The continuous organizational improvement investment will have a positive influence on goal achievement.	Not Supported
H4e	The continuous organizational improvement investment will have a positive influence on firm sustainability.	Not Supported
H5a	The value chain creativity budget will have a positive influence on customer acceptance.	Supported
H5b	The value chain creativity budget will have a positive influence on organizational excellence.	Supported
H5c	The value chain creativity budget will have a positive influence on market reliability.	Supported
H5d	The value chain creativity budget will have a positive influence on goal achievement.	Supported
H5e	The value chain creativity budget will have a positive influence on firm sustainability.	Supported
H6	The customer acceptance will have a positive influence on goal achievement.	Not Supported

Table 15 Summary of the Results of Hypotheses Testing (continued)

Hypotheses	Description of Hypothesized Relationships	Results
H7	The organizational excellence will have a positive influence on goal achievement.	Supported
H8	The market reliability will have a positive influence on goal achievement.	Supported
H9	The goal achievement will have a positive influence on firm sustainability.	Supported
H10a	The long-term vision will have a positive influence on product function development expense.	Supported
H10b	The long-term vision will have a positive influence on dynamic customer learning cost.	Supported
H10c	The long-term vision will have a positive influence on defect prevention risk expenditure.	Supported
H10d	The long-term vision will have a positive influence on continuous organizational improvement investment.	Supported
H10e	The long-term vision will have a positive influence on value chain creativity budget.	Supported
H11a	The best accounting system will have a positive influence on product function development expense.	Not Supported
H11b	The best accounting system will have a positive influence on dynamic customer learning cost.	Not Supported
H11c	The best accounting system will have a positive influence on defect prevention risk expenditure.	Not Supported
H11d	The best accounting system will have a positive influence on continuous organizational improvement investment.	Not Supported
H11e	The best accounting system will have a positive influence on value chain creativity budget.	Not Supported

Table 15 Summary of the Results of Hypotheses Testing (continued)

Hypotheses	Description of Hypothesized Relationships	Results
H12a	The proactive accounting practice will have a positive influence on product function development expense.	Not Supported
H12b	The proactive accounting practice will have a positive influence on dynamic customer learning cost.	Not Supported
H12c	The proactive accounting practice will have a positive influence on defect prevention risk expenditure.	Supported
H12d	The proactive accounting practice will have a positive influence on continuous organizational improvement investment.	Supported
H12e	The proactive accounting practice will have a positive influence on value chain creativity budget.	Supported
H13a	The market competition will have a positive influence on product function development expense.	Not Supported
H13b	The market competition will have a positive influence on dynamic customer learning cost.	Not Supported
H13c	The market competition will have a positive influence on defect prevention risk expenditure.	Not Supported
H13d	The market competition will have a positive influence on continuous organizational improvement investment.	Not Supported
H13e	The market competition will have a positive influence value chain creativity budget.	Not Supported
H14a	The stakeholder requirements will have a positive influence on product function development expense.	Not Supported
H14b	The stakeholder requirements will have a positive influence on dynamic customer learning cost.	Not Supported
H14c	The stakeholder requirements will have a positive influence on defect prevention risk expenditure.	Supported

Table 15 Summary of the Results of Hypotheses Testing (continued)

Hypotheses	Description of Hypothesized Relationships	Results
H14d	The stakeholder requirements will have a positive influence on continuous organizational improvement investment.	Not Supported
H14e	The stakeholder requirements will have a positive influence on value chain creativity budget.	Supported
H15a	The relationship between long-term vision and product function development expense will be positively moderated by accounting learning.	Not Supported
H15b	The relationship between long-term vision and dynamic customer learning cost will be positively moderated by accounting learning.	Not Supported
H15c	The relationship between long-term vision and defect prevention risk expenditure will be positively moderated by accounting learning.	Not Supported
H15d	The relationship between long-term vision and continuous organizational improvement investment will be positively moderated by accounting learning.	Not Supported
H15e	The relationship between long-term vision and value chain creativity budget will be positively moderated by accounting learning.	Not Supported
H16a	The relationship between best accounting system and product function development expense will be positively moderated by accounting learning.	Not Supported
H16b	The relationship between best accounting system and dynamic customer learning cost will be positively moderated by accounting learning	Not Supported

Table 15 Summary of the Results of Hypotheses Testing (continued)

Hypotheses	Description of Hypothesized Relationships	Results
H16c	The relationship between best accounting system and defect prevention risk expenditure will be positively moderated by accounting learning.	Not Supported
H16d	The relationship between best accounting system and continuous organizational improvement investment will be positively moderated by accounting learning.	Not Supported
H16e	The relationship between best accounting system and value chain creativity budget will be positively moderated by accounting learning.	Not Supported
H17a	The relationship between proactive accounting practice and product function development expense will be positively moderated by accounting learning.	Not Supported
H17b	The relationship between proactive accounting practice and dynamic customer learning cost will be positively moderated by accounting learning.	Not Supported
H17c	The relationship between proactive accounting practice and defect prevention risk expenditure will be positively moderated by accounting learning.	Not Supported
H17d	The relationship between proactive accounting practice and continuous organizational improvement investment will be positively moderated by accounting learning.	Not Supported
H17e	The relationship between proactive accounting practice and value chain creativity budget will be positively moderated by accounting learning.	Not Supported
H18a	The relationship between market competition and product function development expense will be positively moderated by accounting learning.	Not Supported

Table 15 Summary of the Results of Hypotheses Testing (continued)

Hypotheses	Description of Hypothesized Relationships	Results
H18b	The relationship between market competition and dynamic customer learning cost will be positively moderated by accounting learning.	Not Supported
H18c	The relationship between market competition and defect prevention risk expenditure will be positively moderated by accounting learning.	Supported
H18d	The relationship between market competition and continuous organizational improvement investment will be positively moderated by accounting learning.	Not Supported
H18e	The relationship between market competition and value chain creativity budget will be positively moderated by accounting learning.	Not Supported
H19a	The relationship between stakeholder requirements and product function development expense will be positively moderated by accounting learning.	Not Supported
H19b	The relationship between stakeholder requirements and dynamic customer learning cost will be positively moderated by accounting learning.	Not Supported
H19c	The relationship between stakeholder requirements and defect prevention risk expenditure will be positively moderated by accounting learning.	Not Supported
H19d	The relationship between stakeholder requirements and continuous organizational improvement investment will be positively moderated by accounting learning.	Not Supported
H19e	The relationship between stakeholder requirements and value chain creativity budget will be positively moderated by accounting learning.	Not Supported

Summary

This chapter details the results and discussion of all nineteen hypotheses testing. The content involves respondent characteristics including the results of the analyses of the demographic characteristics of the respondents. Moreover, the nineteen hypotheses testing and results are followed for each hypothesis in the conceptual model. The results suggest that there were five fully-supported hypotheses, six partially-supported hypotheses, and eight non supported hypotheses. Table 15 presents a summary of hypothesized relationships for all of this research.

The next chapter concludes this research and explains the contributions, limitations, and useful suggestions for further research.

CHAPTER V

CONCLUSION

Strategic quality management costing and the firm sustainability of ISO 9000 manufacturing firms in Thailand are studied in this research. This research introduces strategic quality management costing including five dimensions: product function development expense, dynamic customer learning cost, defect prevention risk expenditure, continuous organizational improvement investment**,** and value chain creativity budget. The impact of five dimensions of cost allocation effectiveness on its consequences (including customer acceptance, organizational excellence, market reliability, goal achievement, and firm sustainability) are examined.

The research examines customer acceptance, organizational excellence, market reliability and goal achievement. Goal achievement and firm sustainability are also examined. In addition, five antecedents of strategic quality management costing (including long-term vision, best accounting system, proactive accounting practice, market competition, and stakeholder requirements) are investigated as to their influence on strategic quality management costing. Lastly, accounting learning as the moderating variable is tested for its impact on the relationships between strategic quality management costing and its antecedents.

The main research question is, “how does strategic quality management costing affect firm sustainability?” The specific research questions are as follows: (1) How does each dimension of strategic quality management costing affect customer acceptance, organizational excellence, market reliability, goal achievement and firm sustainability? (2) How do customer acceptance, excellence organizational, and market reliability affect goal achievement? (3) How does goal achievement affect firm sustainability?(4) How do long-term vision, best accounting system, proactive accounting practice, market competition, and stakeholder requirements have an influence on each dimension of strategic quality management costing? (5) How does accounting learning moderate the relationships between long-term vision, best accounting system, proactive accounting practice, market competition, and stakeholder requirements and each dimension of strategic quality management costing?

The conceptual model is explained by the resource-based views theory, and the contingency theory. The resource-based views is used to explain the key drivers of strategic quality management costing which are the knowledge of the firm and are the most strategically significant resources of the firm. Therefore, this research discusses presenting a general framework that links strategic quality management costing, that creates a competitive advantage, and contributes to sustainability. Furthermore, the contingency theory is applied to define the antecedent variables as to the conceptual model, and describes thelinkage between strategic quality management costing and its antecedents.

The ISO 9000 manufacturing firms in Thailand were selected as a sample. The unit of analysis was the organization. Also, an accounting executive was chosen as the key informant. A mail survey was used to collect the data. In addition, an appropriate instrument for data collection was a questionnaire. Therefore, the questionnaire was directly sent by post to 1,088 accounting executives of ISO 9000 manufacturing firms. The valid mailing was 1,050 surveys of which 195 surveys were completed, returned, and were usable. The content validity of measures was verified by two academic experts. The convergent validity of measures was proven by exploratory and confirmatory factor analysis. Moreover, the reliability of measures was tested by Cronbach's alpha. Multiple regression statistical analysis was employed for the hypotheses testing.

Summary of the Results

The results, based on the sample of 195 ISO 9000 manufacturing firms in Thailand, reveal that value chain creativity budget has a strong, positive relationship with all consequences of strategic quality management costing; namely, customer acceptance, organizational excellence, market reliability, goal achievement and firm sustainability. Moreover, continuous organizational improvement investment has a positive relationship with customer acceptance, organizational excellence, and market reliability. In addition, product functional development expenditure has a positive relationship with organizational excellence and market reliability. Furthermore, dynamic customer learning cost positively affects goal achievement. Nevertheless, defect prevention risk expenditure does not significantly affect any consequence.

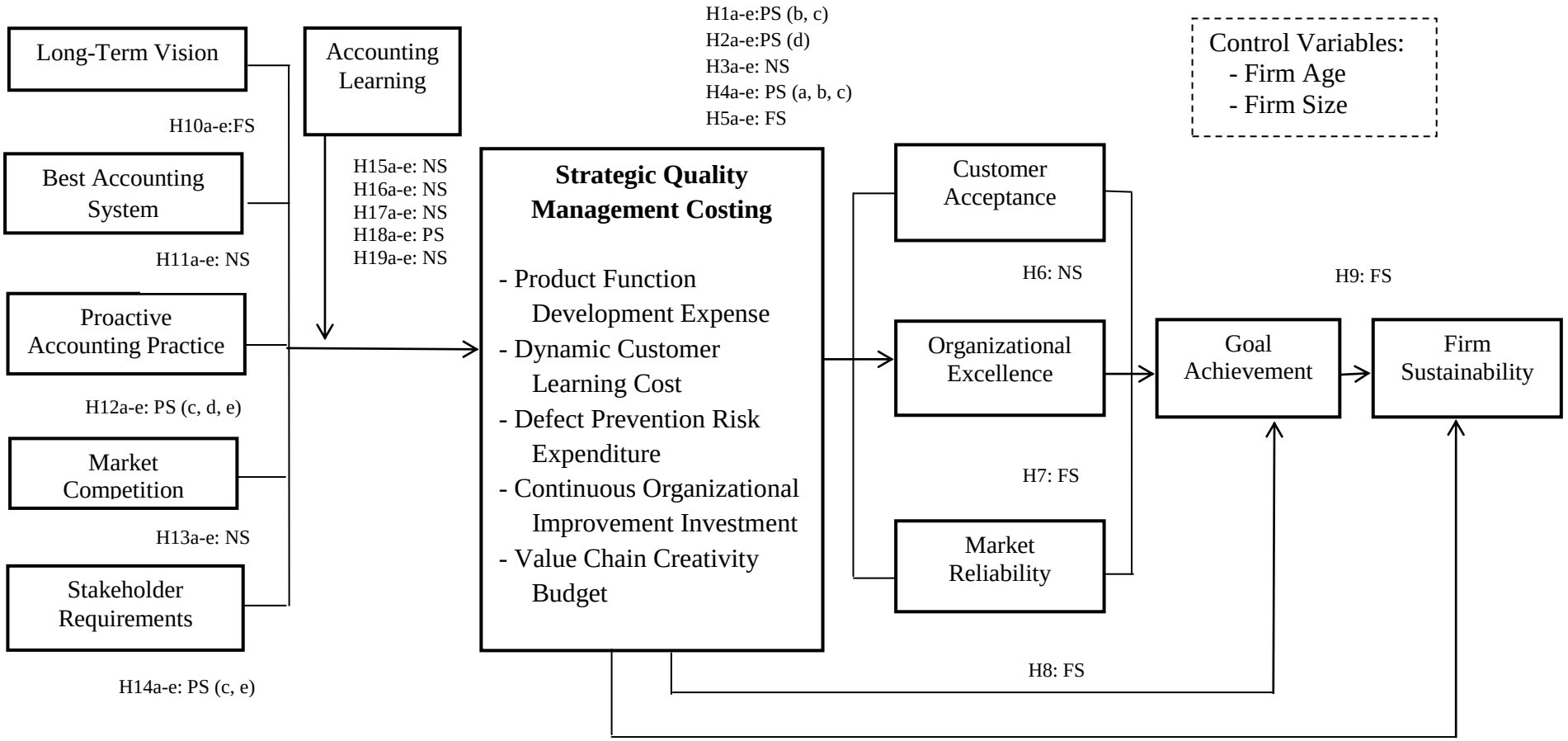
For the effect of the antecedents, long-term vision positively relates to of the All dimensions of strategic quality management costing (including product functional development expenditure, dynamic customer learning cost, defect prevention risk expenditure, continuous organizational improvement investment, and value chain creativity budget). Furthermore**,** proactive accounting practice has a positive association with dynamic customer learning cost, continuous organizational improvement investment, and value chain creativity. Moreover, stakeholder requirements positively relate to continuous organizational improvement investment and value chain creativity. Nevertheless, best accounting system and market competition does not significantly affect any strategic quality management costing.

For the effect moderator, only accounting learning, as a moderator, has a significant and positive moderating effect on market competition and defect prevention risk expenditure. Accounting learning does not significantly moderate the relationship of the antecedents - strategic quality management costing relationship.

In summary, strategic quality management costing has an effect on its consequences (including organizational excellence, market reliability, goal achievement and firm sustainability). Particularly, value chain creativity budget increased goal achievement through increased sustainability. The research finds that the antecedents (including long-term vision, proactive accounting practice, and stakeholder requirements) are the contingent factors which influence strategic quality management costing. Lastly, for the moderating effect, accounting learning is the important factor to encourage relationships between market competition and defect prevention risk expenditure.

As described earlier, Figure 11 shows the results of hypotheses testing in a summary. Also, the summary of all research questions, the results, and the conclusions of hypotheses testing are demonstrated in Table 16.

Figure 11 Summary of Results of the Hypotheses Testing



Where: FS = Fully Supported = 5 hypotheses
PS = Partially Supported = 6 hypotheses
NS = Not Supported = 8 hypotheses

Table 16 Summary of Results and Conclusions of All Hypotheses Testing

Research Questions	Hypothesis	Results	Conclusions
(1) How does each dimension of strategic quality management costing affect customer acceptance, organizational excellence, market reliability, goal achievement and firm sustainability?	Hypothesis 1b and c	Product function development expense has a positive effect only on organizational excellence and market reliability.	Partially supported
	Hypothesis 2d	Dynamic customer learning has a positive effect only on goal achievement.	Partially supported
	Hypothesis 3	Defect prevention risk expenditure does not affect all consequences.	Not supported
	Hypothesis 4a,b and c	Continuous organizational improvement investment has a positive effect only on customer acceptance, organizational excellence, and market reliability.	Partially supported
	Hypothesis 5a,b,c,d, and e	Value chain creativity budget strongly affects positively on customer acceptance, organizational excellence, market reliability, goal achievement, and firm sustainability.	Fully supported
(2) How do customer acceptance, excellence organizational, and market reliability affect goal achievement?	Hypothesis 6	Customer acceptance does not affect goal achievement.	Notsupported
	Hypothesis 7	Organizational excellence has a positive effect on goal achievement.	Supported
	Hypothesis 8	Market reliability has a positive effect on goal achievement.	Supported

Table 16 Summary of Results and Conclusions of All Hypotheses Testing (continued)

Research Questions	Hypotheses	Results	Conclusions
(3) How does the goal achievement affect firm sustainability?	Hypothesis 9	Goal achievement has a positive effect on firm sustainability.	Supported
(4) How do long-term vision, best accounting system, proactive accounting practice, market competition, and stakeholder requirements have an influence on each dimension of strategic quality management costing?	Hypothesis 10a, b,c,d, and e	Long-term vision has strongly affected and a positive influence on product function development expense, dynamic customer learning, defect prevention risk expenditure, continuous organizational improvement investment, and value chain creativity budget.	Fully supported
	Hypothesis 11	Best accounting system does not influence on all dimensions of strategic quality management costing.	Not supported
	Hypothesis 12c, d, and e	Proactive accounting practice has a positive influence only on defect prevention risk expenditure, continuous organizational improvement investment, and value chain creativity budget.	Partially supported
	Hypothesis 13	Market competition does not influence on all dimensions of strategic quality management costing.	Not supported
	Hypothesis 14c and e	Stakeholder requirement has a positive influence only on defect prevention risk expenditure and value chain creativity budget.	Partially supported

Table 16 Summary of Results and Conclusions of All Hypotheses Testing (continued)

Research Questions	Hypothesis	Results	Conclusions
(5) How does accounting learning moderate the relationships between long-term vision, best accounting system, proactive accounting practice, market competition, and stakeholder requirements and each dimension of strategic quality management costing?	Hypothesis 15	Accounting learning does not positively moderate the relationships between long-term vision and all dimension of strategic quality management costing.	Not supported
	Hypothesis 16	Accounting learning does not positively moderate the relationships between best accounting system and all dimension of strategic quality management costing.	Not supported
	Hypothesis 17	Accounting learning does not positively moderate the relationships between proactive accounting practice and all dimension of strategic quality management costing.	Not supported
	Hypothesis 18c	Accounting learning does not positively moderate the relationships between market competitions; it does only on defect prevention risk expenditure.	Partially supported
	Hypothesis 19	Accounting learning does not positively moderate the relationships between stakeholder requirements and all dimensions of strategic quality management costing.	Not supported

Theoretical and Managerial Contributions

Theoretical Contribution

Previous research has suggested that improving the sustainability strategy on the implementation process, managers should carefully identify and measure key performance drivers in among the various inputs and complex processes of business. Thus, this research provides a conceptual model for the manufacturing firm's choice of specific sustainable development activities can benefit from an integration of two streams include strategic quality management (SQM) and quality cost system, indeed providing a valuable link between them. As a result, this research makes three major theoretical contributions to the corporate sustainable development, strategic management, and management accounting literature.

Firstly, approaching sustainability of firms the preceding discussion that a firm should have sustainable development activities. Further, previous research demonstrated that quality management required to enhanced business performance and sustainability. At this point is how accounting's role in the management and control of quality lead to firm sustainability. Thus, the strategic quality management costing is the perfect combination of core quality management practices and costing accounting function on resource view. This research proposes the strategic quality management costing by newly developed constructs and five dimensions include product functional development expenditure, dynamic customer learning cost, continuous organizational improvement investment, and value chain creativity budget. These are dimensions providing an overview of the process that was used to develop internal accounting procedures for measuring and managing quality in the manufacturing industry. Importantly, it differentiates from prior strategic management accounting and core quality management practices literature.

Secondly, prior research suggests that address sustaining competitive advantage in quality involves increasing the consistency of quality performance. Thus, this research examines how each dimension of strategic quality management costing affects its consequences (customer acceptance, organizational excellence, market reliability, and goal achievement) and firm sustainability. Furthermore, specific manufacturing firms in Thailand industry characteristics as an answer, the results of this

research indicate strategic quality management costing is a firm capability that enhances firms; giving the ability to achieve its goal and maintain its superior performance and sustainability. Moreover, the results of this research confirm the core attributes of value chain creativity budget, it has highlighted the importance because value chain creativity budget has the potential can fully support coversall consequences of the conceptual model and direct effect on firm sustainability. This finding's research has helped to brighten the understanding under the model of strategic quality management costing by proposing newly-distinctive dimensions of strategic quality management costing comprising new idea enhancement.

Finally, in recent years scholars have devoted a great deal of successfully applied to implement and sustain a quality costing system (QCS) that is required to modify in accordance with the context of competitive and diverse marketplaces, an uncertain and risky business environment, and changing customer needs. Thus, this research proposes to enhance the new knowledge of the contingent factors and complex nature of manufacturing firms. This research addresses the following research question that "How do long-term vision, best accounting system, proactive accounting practice, market competition, and stakeholder requirements have an influence on each dimension of strategic quality management costing?" The findings show that the strategic quality management costing has been influenced from contingent factors; internal factors are long-term vision, proactive accounting practice and external factors is stakeholder requirements. Especially, as highlighted the importance is long-term vision, because it has the potential that can fully support and cover all dimensions of the strategic quality management costing. This means that long-term vision may play a major role in determining and promoting strategic quality management costing successes on circumstances of the changed in technology, marketing, and manufacturing processes.

Managerial Contribution

Prior research issued quality management practices demonstrate that when the environmental uncertainty and scarce resources, firms need to choose the right focus of quality practices to achieve better performance. Hence, internal fit between quality practices and the structure becomes critical and needs to response with external environment. Moreover, quality practices success must rely on quality cost system for

measures and evaluation of efficiency and effectiveness. Thus, this research provides guidance for practitioners and managers to customize QM practice under situational factors of ISO manufacturing firms in Thailand.

Firstly, this research helps ISO manufacturing firms choose priority the right focus of the quality management practices and allocate their resources wisely based on their organizational structure and the external environment. The results indicate that value chain creativity budget is the best performance of dimension of strategic quality management cost. It can help to increase customer acceptance, organizational excellence, market reliability, goal achievement, and firm sustainability. Then, continuous organizational improvement investment can help to increase customer acceptance, organizational excellence, market reliability. Next, product functional development expenditure helps to increase organizational excellence and market reliability. Lastly, dynamic customer learning cost helps to increase goal achievement.

Therefore, a firm's executive should have application of these dimensions for achieving quality objective and strategy management process of each firm. However, if a scarce resources while need to be allocated of many different objectives. Hence, a firm must focus budget allocated to the design and develop a new work process for improving value chain management because a value chain within the business processes is the solution leading to outcome covers a target of total quality management (TQM). While accounting executives must coordinate by providing and using quality cost information to help decision makers or value chain members to achieve its objectives.

Secondly, this research provides a better understanding of how the firm can encourage strategic quality management costing. The results indicate that there are two internal factors which are long-term and proactive accounting practice. The highlight is the long-term vision factor can help supported covers five dimensions of strategic quality management costing. Thus, a firm’s executive should establish the mission, policy, commitment, and set targets clear for the long-term that will help be able to see a direction in operation to succeed. Further, a firm’s executive needs determining a measure of the success of the firm both in the short and long-term concretely. It will encourage link quality cost system with administration systems of the organization together with a concrete which will help achieve operations goals.

For the proactive accounting practice factor can help support to enhance the defect prevention risk expenditure, continuous organizational improvement investment and value chain creativity budget. Thus, a firm's executive should encourage an analysis the potential and ability of markets, customers, competitors that are systematic which helps implementation of accounting practices is able to support operating to maximize efficiency. In addition, the results indicate that external factor which is stakeholder requirements can help supported defect prevention risk expenditure, continuous organizational improvement investment and value chain creativity budget. Thus, a firm's executive should access and analyze about customer's demand, regulators, social and expectation's public for the design and development of quality cost system to support on requirements of them.

Lastly, a firm's executive should assign a training program or the application of knowledge management (KM) approaches in the field of business environment for accountants of the firm which will help to have better quality cost information in support to the decision marking of executives. In addition, analyzing and reporting of information about the competitive environment, ultimately leading to the firm's ability to help manage the risks that could negatively or positively affect the firm's competitiveness and success.

Limitations and Future Research Directions

Limitations

This research has some limitations that should be mentioned. Firstly, the result of this research was constrained population from only ISO 9000 manufacturing firms in Thailand. Thus, the results of this research may be narrow as lacking generalized concepts for other sectors and other countries. In addition, for interpretation and implementation of the results should be carefully concerned with applying for next studies. Second, the appropriate key informant of this research is the accounting executive of each firm. However, the respondent characteristics of key informant are an accounting manager 58.46 percent and others position is 38.46 percent while an accounting director has very little is 3.08 percent. Thus, limitation concerns about the respondent characteristics based on input from key informant could affect the research’s

findings. Finally, Thailand Institute of Industry Standard of the Thai government lack of updated information on the current status of ISO 9000 manufacturing firm from the close down or address change makes a mail survey questionnaire recipient to make a return.

Future Research

This research finds some unexpected results which should recommend for future research. Firstly, the results of this research are obtained only from information ofISO 9000 manufacturing firms in Thailand. Thus, future research should apply for other industries, such as, specific industry, compare manufacturing with service, or compared with international industry to broad the perspective of the research. Secondly, the results of this research showed that defect prevention risk expenditure has not significant positive relation with its consequence. Thus, defect prevention risk expenditure should be retested for future research on other perspective by considering strategies factor of manufacturing firms such as, defensive strategy or cost leaderships strategy.

Thirdly, the results of this research, there are very few significant and positive for accounting learning moderate on the relationship among strategic quality management costing and its antecedents. Clearly, future research needs to seek the other potential moderating variables such as, information technology capability. It is very interesting for future research. Lastly, the results of this research indicate that some hypotheses are not supported relationships between strategic quality management costing with its antecedent and consequence. However, this research introduces the resource-based view theory and contingency theory that backs up the conceptual model. Thus, future research could consider the literature review to seek other theories such as stakeholder theory and legitimacy theory to explain the research's findings may be perfect better and more comprehensive models.

In addition, this research uses only questionnaires for collecting data procedures condition in research design. Thus, future research may concern more variables which is a limitation in this research and develop other methods which may be applied in the future such as, in-depth interviews, and case studies in order to fully understand of new constructs measurements and to confirm all relationships of this model. Finally, this research uses only key informant are accounting director and

manager accounting from accounting department for collecting data. Thus, future research could collect data from a multi- key informants, such as, accounting director, market director, and production manager which may be complete a data both provider and user for a quality cost information.

Summary

This chapter has detailed the conclusion of the results on the effects of strategic quality management costing on firm sustainability that is supported by the theoretical frameworks, including the resource-based view (RBV) theory and contingency theory. The results of this research confirm that strategic quality management costing has a positive, influential impact on firm sustainability through organizational excellence, market reliability and goal achievement. Given this evidence, it can be seen that the research question is supported. However, there are both fully-supported and partially-supported hypotheses.

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APPENDICES

APPENDIX A

The Original Items

Table A: Original Items in Scales

Construct	Items
Product Function Development Expense (PFD)	
PED1	Firm believes that the great product function development system to help make the product of firm has increased quality.
PED2	Firm emphasizes that allocation the budget to develop the product function to meet the various standards the systematic will result firm's product was accepted for consumers increasingly.
PED3	Firm focuses on investing in the technology to application development function to meet the requirements of consumers at all times can help grow market share has increasingly.
PED4	Firm supports employee to attend training in design and products function development for unique can help respond to market demands the better.
Dynamic Customer Learning Cost (DCL)	
DCL1	Firm believes that customer learning is very well will be help to quality management more effectively.
DCL2	Firm encourages employees to attend train continued about customer management modern which will be help achieve operate the better.
DCL3	Firm focuses on invest in develop a concrete customer database will be help monitor and evaluate requirements of customer is fast, accurate, and more effectively.
DCL4	Firm supports to communicate with customers regularly will help introduce product and services to meet the customer's requirements better.
Defect Prevention Risk Expenditure (DPR)	
DPR1	Firm believes that the risk prevention system resulting from defects, in a great system will help make the administration more effectively.

Table A Original Items in Scales (continued)

Construct	Items
Defect Prevention Risk Expenditure (DPR)	
DPR2	Firm emphasizes that investing in order to develop a system involves risk prevent with a concrete allow to operate more effectively.
DPR3	Firm focuses on the expenditure classification associated risk prevention resulting from defects the systematic which improves the operate efficiency of the firms so much the more.
DPR4	Firm commits to report the damage caused by defects and propose solutions consistently helps to evaluate and standardize the defense the better.
Continuous Organizational Improvement Investment (COI)	
COI1	Firm believes that the continuous improvement development will help the administration more effectively.
COI2	Firm focuses on the budget allocated to the organizational improvement development of all systems is concrete which affect available resources can be distributed to adequately and more appropriately.
COI3	Firm commits to classification the organizational improvement development expenditure is concrete helps can monitor and command to responsible agencies to be more effectiveness.
COI4	Firm supports to the reporting relate cost and benefits case by organizational improvement investment is continuous which help achieve a worthwhile and helpful in the maximum operate.
Value Chain Creativity Budget (VCC)	
VCC1	Firm believes that value-added activity analysis for the organization in a systematic will help the administration to target achieve is better.

Table A Original Items in Scales (continued)

Construct	Items
Value Chain Creativity Budget (VCC)	
VCC2	Firm emphasizes that budget allocated to the design and new work processes improved throughout the organization will help capacity increase in operate organization to more efficiently.
VCC3	Firm supports to the employees award and departments for concept or guidelines proposed to increase performance and operation improves of the organization continued will help successful well increasingly.
VCC4	Firm focuses on the reporting of costs and expenses incurred from the creative of each segment regularly will help the administration to achieve maximum benefits.
Customer Acceptance (CA)	
CA1	Firm has been recognized by the customers continued from the past to present.
CA2	Firm can maintain regular customers as well and have new customers occur continuously.
CA3	Firm has been mentioned by customers continuous that firm's production to meet demand and appropriate price.
CA4	Firm has customer loyalty with products and services of the firm unaltered though the market is a replacement products or new services pattern it happened.
Organizational Excellence (OE)	
OE1	Firm has administrative compliant with the standard various all relevant and always timely.
OE2	Firm has uniqueness features and operating methods identity which prominent very clearly.
OE3	Firm has ability to determine the position of products and services in the market very clearly.

Table A Original Items in Scales (continued)

Construct	Items
Organizational Excellence (OE)	
OE4	Firm has resource management system with maximize efficiency and effectiveness.
Market Reliability (MR)	
MR1	When referring to the organizations that have management quality and most effective, the firm is one of the organizations that received recognition from the market and involved person always timely.
MR2	Firm receives collaboration and supports in conducting various activities from organizations external regularly.
MR3	Firm receives trusted and faith regarding corporate social responsibility from the community and public the good always.
MR4	Firm receives trustworthiness from the investors both domestic and international about the potential of organizational on the management professional.
Goal Achievement (GA)	
GA1	Firm can achieve the objectives and mission of the organization as well.
GA2	Firm can generate a return to stakeholders achieved on the target.
GA3	Firm can increase productivity in operations, both monetary and non-monetary meet expected.
GA4	Firm has a growth rate of profit and market share increase achieved on the target.
Firm Sustainability (FT)	
FT1	Firm can create knowledge, innovation, and an asset for the benefit of the organization continued.

Table A Original Items in Scales (continued)

Construct	Items
Firm Sustainability (FT)	
FT2	Firm sure that to bring the business to survive in the business. Although faced with economic crisis and the intense competition in the future.
FT3	Firm has financial status and performance that stability and security can continue to run the business in the long-term.
FT4	Firm has organizational culture emphasizes cooperation from organization's members every for creating business stability and growth both present and future.
Long-Term Vision (LT)	
LT1	Firm believes that the policy, administration and set targets clear for the future will help be able to see direction in operation to succeed as well.
LT2	Firm emphasizes that determining a measure of the success of the firm both in the short and long-term concrete which allows it to assess the performance even better.
LT3	Firm realizes that investing in human resource development is concrete and continuous helps the administration succeeds as well as in the present and future.
LT4	Firm supports invest in technology and new innovations continued help create a competitiveness in the present and future even better.
Best Accounting System (BA)	
BA1	Firm believes that the best accounting system helps make administration more effectively.
BA2	Firm emphasizes that modern technology applied in the accounting system is concrete helps offer accounting information has quality better.

Table A Original Items in Scales (continued)

Construct	Items
Best Accounting System (BA)	
BA3	Firm focuses on to have improvements the accounting system is continued helps achieve performance goals, consistent with objectives and goals of the organization as well.
BA4	Firm encourages link accounting system with administration systems of the organization together with a concrete which will be help achieve operations goals.
Proactive Accounting Practice (PA)	
PA1	Firm believes that the accounting practices take into account to operate future will be help accounting practices contributes efficiency and the most utilization.
PA2	Firm supports on analysis the potential and ability of markets, customers, competitors is systematic which helps implementation of accounting practices can supports operating to maximize efficiency.
PA3	Firm focuses on to offering of accounting information that reflects the situation the organization's operations in the present and future will help the administration achieve the good always.
PA4	Firm focuses on the accounting practices that realize to the survival and sustainability of the firm both present and future which will be help the accounting practices contributes the most utilization for the firm.
Market Competition (MC)	
MC1	At present, new competitors has entering the business regularly makes to firms must adapt and prepare for the competition situation that occurs all the time.

Table A Original Items in Scales (continued)

Construct	Items
Market Competition (MC)	
MC2	Environment associated with business operations have more complex makes to firms must seek ways to manage risk to achieve maximize efficiency.
MC3	Market has the demand of product and service is more quality makes to firms must improve and develop the organization continued.
MC4	At present, technologically advanced and rapid changes to firms have to invest in technology to maximize efficiency of the organization always timely.
Stakeholder Requirements (SR)	
SR1	Public has expectations for the firms operation has higher continued affects firms must focus on operations to achieve maximum efficiency and effectiveness.
SR2	Customer has the demand of product and service is higher quality makes to firms must production improve and service is continued.
SR3	Rules and regulations were more stringent makes to firms must focus on education which case can be applied to achieve maximize efficiency.
SR4	Society has the demand a responsibility in business's operation has increased continues affects to firms must focus in operation to meet the demand these as well.
Accounting Learning (AL)	
AL1	Firm believes that the better accounting learning will help administration accounting to achieve the maximize efficiency.

Table A Original Items in Scales (continued)

Construct	Items
Accounting Learning (AL)	
AL2	Firm supports on staff training related to the accounting continues which helps achieve the maximize efficiency.
AL3	Firm focuses on the work experience integration in accounting practices used as a guideline task current accounting will help to achieve operations the ultimate goal.
AL4	Firm supports to knowledge management related to the accounting in a systematic via apply the information technology involved which will help to have better information in support to achieve the ultimate goal.

APPENDIX B

Test of Non-Response Bias

Appendix B – Test of Non-Response Bias

Table B Non-Response Bias Tests

Comparison	n	Mean	S.D.	t	p-value
Operation capital of the firm:					
- First Group	98	2.85	1.152	-0.949	0.344
- Second Group	97	3.00	1.099		
Total Assets of the firm					
- First Group	98	3.00	1.158	-0.522	0.603
- Second Group	97	3.08	1.048		
Number of employees:					
- First Group	98	2.99	1.089	-1.121	0.264
- Second Group	97	3.15	0.961		
The period of time in operating business:					
- First Group	98	3.37	0.866	-0.291	0.772
- Second Group	97	3.40	0.799		
The period of time in ISO 9000 certificate:					
- First Group	98	3.21	0.922	-0.678	0.499
- Second Group	97	3.30	0.819		
Average revenue of the firm per year:					
- First Group	98	3.38	0.879	-1.097	0.274
- Second Group	97	3.51	0.738		

APPENDIX C

Summary of Demographic Characteristics of Key Informants and Sampled Firms

Appendix C – Summary of Demographic Characteristics of Key Informants and Sampled Firms

Table C1 Summary of Demographic Characteristics of Key Informants

Descriptions	Categories	Frequencies	Percentage
1. Gender	Male	43	22.05
	Female	152	77.95
	Total	**195**	**100.00**
2. Age	Less than 30 years old	13	6.67
	30 - 40 years old	62	31.79
	41 - 50 years old	94	48.21
	More than 50 years old	26	13.33
	Total	**195**	**100.00**
3. Marital Status	Single	47	24.11
	Married	140	71.79
	Divorced	8	4.10
	Total	**195**	**100.00**
4. Education Level	Bachelor's degree or Undergraduate	115	58.97
	Higher than undergraduate	80	41.03
	Total	**195**	**100.00**
5. Working Experience	Less than 5 years	7	3.59
	5 - 10 years	31	15.90
	11 - 15 years	66	33.85
	More than 15 years	91	46.66
	Total	**195**	**100.00**

Table C1 Summary of Demographic Characteristics of Key Informants (continued)

Descriptions	Categories	Frequencies	Percentage
6. Average monthly income	Less than 75,000 Baht	98	50.26
	75,000–100,000 Baht	54	27.69
	100,001–125,000 Baht More than 125,000 Baht	23	11.79
		20	10.26
	Total	**195**	**100.00**
7. Working position at your current company	Accounting director	6	3.08
	Accounting manager	114	58.46
	Others (e.g. Assistant Super Visor, Accounting and Financial manager, and Personal manager)	75	38.46
	Total	**195**	**100.00**

Table C2 Summary of Sampled Firm Characteristics

Descriptions	Categories	Frequencies	Percentage
1. Business owner types	Company limited	188	96.41
	Partnership	7	3.59
	Total	**195**	**100.00**
2. Industrial categories	Production, processing and preservation of meat, fish, fruit, vegetables, oils and fats	4	2.05
	Grain mill products, starches and prepared animal feeds	3	1.54
	Other food products	3	1.54
	Beverages	1	0.51
	Textiles	5	2.56

Table C2 Summary of Sampled Firm Characteristics (continued)

Descriptions	Categories	Frequencies	Percentage
2. Industrial category	Wood products	1	0.51
	Paper & paper products	1	0.51
	Publishing/printing	6	3.08
	Petroleum products	4	2.05
	Basic chemicals	1	0.51
	Other chemical products	11	5.64
	Man-made fibers	2	1.03
	Rubber products	7	3.59
	Plastic products	15	7.69
	Glass & glass products	4	2.05
	Ceramic/clay products	4	2.05
	Cement/concrete	17	8.72
	Cutting, shaping and finishing of stone	4	2.05
	Basic iron/steel	9	4.62
	Precious/non ferrous metals	4	2.05
	Casting of metals	8	4.10
	Metal products	10	5.13
	Machinery and equipment	11	5.64
	Production of electricity	5	2.56
	Manufacture of gas	3	1.54
	Others (e.g. Production of tiles, Production of auto part, Material of road marking)	52	26.68
	Total	**195**	**100.00**

Table C2 Summary of Sampled Firm Characteristics (continued)

Descriptions	Categories	Frequencies	Percentage
3. Operational capital of firm	Less than 5,000,000 Baht	34	17.44
	5,000,000 – 10,000,000 Baht	29	14.87
	10,000,001 – 15,000,000 Baht	50	25.64
	More than 15,000,000 Baht	82	42.05
	Total	**195**	**100.00**
4. Total assets of the firm	Less than 50,000,000 Baht	28	14.36
	50,000,000 – 100,000,000 Baht	30	15.38
	100,000,001 – 150,000,000 Baht	43	22.05
	More than 150,000,000 Baht	94	48.21
	Total	**195**	**100.00**
5. Number of employees	Less than 50 employees	21	10.77
	50 – 100 employees	33	16.92
	101 – 150 employees	52	26.67
	More than 150 employees	89	45.64
	Total	**195**	**100.00**
6. The period of time in operating business	Less than 5 years	5	2.56
	5 -10 years	29	14.88
	11 – 15 years	47	24.10
	More than 15 years	114	58.46
	Total	**195**	**100.00**
7. The period of time in ISO 9000 certificate	Less than 5years	7	3.58
	5 – 7 years	34	17.44
	8 – 10 years	56	28.72
	More than 10 years	98	50.26
	Total	**195**	**100.00**

Table C2 Summary of Sampled Firm Characteristics (continued)

Descriptions	Categories	Frequencies	Percentage
8. The average revenue of firm per year	Less than 10,000,000 Baht	7	3.59
	10,000,000 – 20,000,000 Baht	19	9.74
	20,000,001 – 30,000,000 Baht	50	25.64
	More than 30,000,000 Baht	119	61.03
	Total	**195**	**100.00**

APPENDIX D

Test of Validity and Reliability Analyses

Appendix D – Test of Validity and Reliability

Table D Factor Loadings and Alpha Coefficient of Constructs

Constructs	**N**	**Items**	**Factor Loadings**	**Reliability (Cronbach's Alpha Coefficient)**
Product Function Development Expense (PFD)	30	PFD1	.697	.751
		PFD2	.919	
		PFD3	.815	
		PFD4	.676	
Dynamic Customer Learning Cost (DCL)	30	DCL1	.749	.734
		DCL2	.736	
		DCL3	.712	
		DCL4	.795	
Defect Prevention Risk Expenditure (DPR)	30	DPR1	.855	.865
		DPR2	.821	
		DPR3	.919	
		DPR4	.793	
Continuous Organizational Improvement Investment (COI)	30	COI1	.763	.799
		COI2	.950	
		COI3	.945	
		COI4	.476	
Value Chain Creativity Budget (VCC)	30	VCC1	.806	.887
		VCC2	.930	
		VCC3	.873	
		VCC4	.845	

Table D Factor Loadings and Alpha Coefficient of Constructs (continued)

Constructs	N	Items	Factor Loadings	Reliability (Cronbach's Alpha Coefficient)
Customer Acceptance (CA)	30	CA1	.758	.802
		CA2	.802	
		CA3	.880	
		CA4	.729	
Organizational Excellence (OE)	30	OE1	.699	.754
		OE2	.854	
		OE3	.849	
		OE4	.633	
Market Reliability (MR)	30	MR1	.860	.881
		MR2	.828	
		MR3	.883	
		MR4	.862	
Goal Achievement (GA)	30	GA1	.530	.725
		GA2	.760	
		GA3	.838	
		GA4	.866	
Firm Sustainability (FT)	30	FT1	.823	.980
		FT2	.955	
		FT3	.879	
		FT4	.892	
Long-Term Vision (LT)	30	LT1	.852	.903
		LT2	.931	
		LT3	.918	
		LT4	.851	

Table D Factor Loadings and Alpha Coefficient of Constructs (continued)

Constructs	N	Items	Factor Loadings	Reliability (Cronbach's Alpha Coefficient)
Best Accounting System (BA)	30	BA1	.897	.935
		BA2	.947	
		BA3	.930	
		BA4	.883	
Proactive Accounting Practice (PA)	30	PA1	.860	.946
		PA2	.964	
		PA3	.947	
		PA4	.941	
Market Competition (MC)	30	MC1	.695	.762
		MC2	.888	
		MC3	.883	
		MC4	.579	
Stakeholder Requirements (SR)	30	SR1	.762	.861
		SR2	.823	
		SR3	.906	
		SR4	.884	
Accounting Learning (AL)	30	AL1	.946	.931
		AL2	.919	
		AL3	.845	
		AL4	.938	

APPENDIX E

Test of the Assumption of Regression Analysis

Appendix E- Results of testing basic assumption of regression analysis

Regression analysis (OLS) is used to test the interrelationship between the various independent and dependent variables by SPSS program. From the relation model and the hypotheses, the following 17 equation models are presented including assumptions of regression model as follows.

1. Linearity of phenomenon measured
2. Normality of the error term distribution
3. Independence of the error terms
4. Constant variance of the error terms (Homoscedasticity)
5. Test of multicollinearity

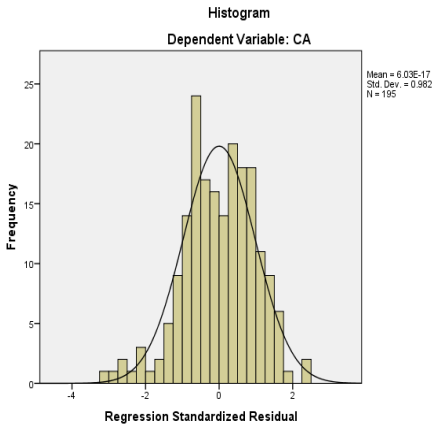
1. Linearity of Phenomenon Measured

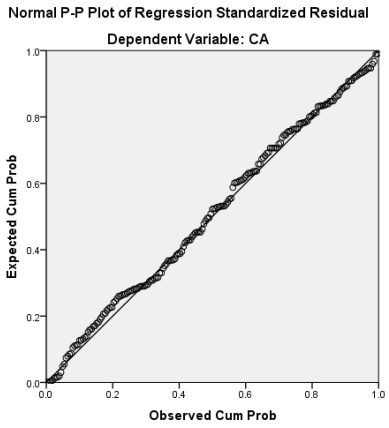
The linearity of the dependent – independent variables relationship describes the degree change in the dependent variable as related to the independent variable. This research uses residual plots to examine on linearity of any bivariate relationship. The results of linearity testing do not demonstrate any nonlinear pattern to the residuals. Thus, in overall, each model is linear.

2. Normality of the Error Term Distribution

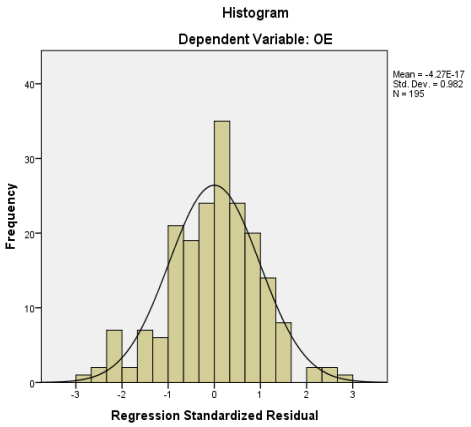
The test normal distribution for checking the set of independent variables in the equation is a histogram of residuals, with a visual check for a distribution approximating the normal distribution. A method is the use of normal probability plots (Hair et al., 2010). Thus, the research uses the normal probability plots method. The normal probability plot is compared the observed values with those expected from a normal distribution. If the data display the characteristics of normality, the points will fall within a narrow band a straight line.

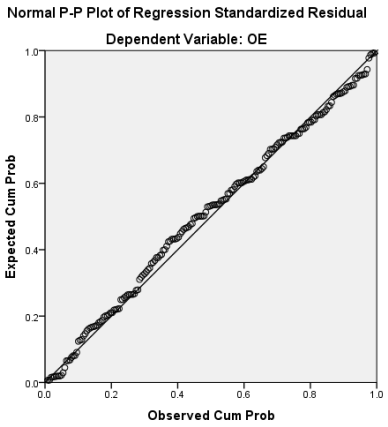
Equation 1: CA = $\alpha_{01} + \beta_1 DFD + \beta_2 DCL + \beta_3 DPR + \beta_4 COI + \beta_5 VCC + \beta_6 FA + \beta_7 FS + \varepsilon_1$



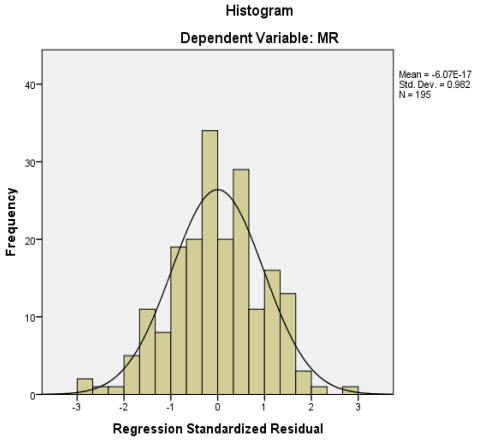


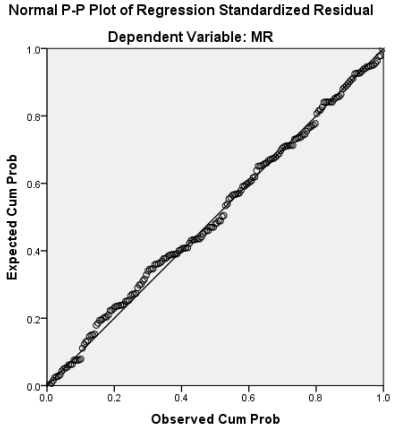
Equation 2: OE = $\alpha_{02} + \beta_8 DFD + \beta_9 DCL + \beta_{10} DPR + \beta_{11} COI + \beta_{12} VCC + \beta_{13} FA + \beta_{14} FS + \varepsilon_2$



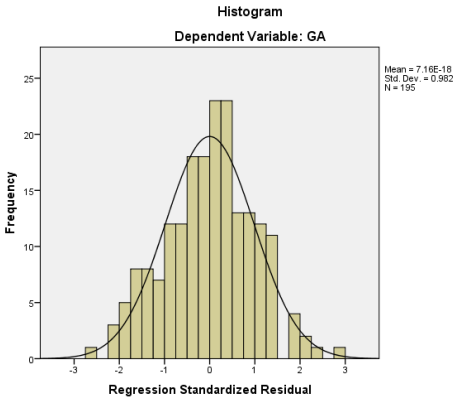


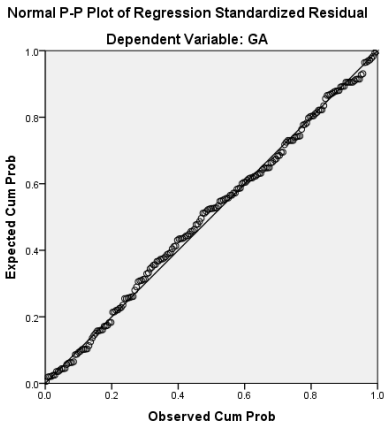
Equation 3: MR = $\alpha_{03} + \beta_{15} DFD + \beta_{16} DCL + \beta_{17} DPR + \beta_{18} COI + \beta_{19} VCC + \beta_{20} FA + \beta_{21} FS + \varepsilon_3$



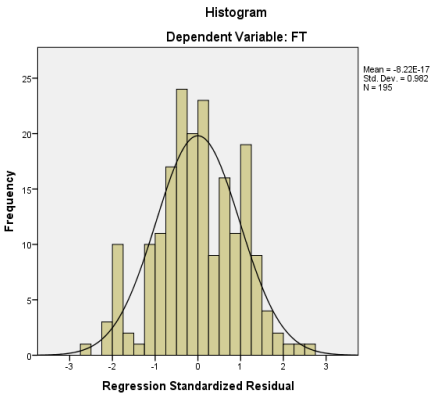


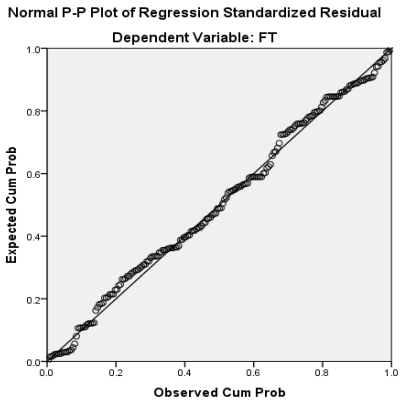
Equation 4: GA = $\alpha_{04} + \beta_{22}DFD + \beta_{23}DCL + \beta_{24}DPR + \beta_{25}COI + \beta_{26}VCC + \beta_{27}FA + \beta_{28}FS + \varepsilon_4$



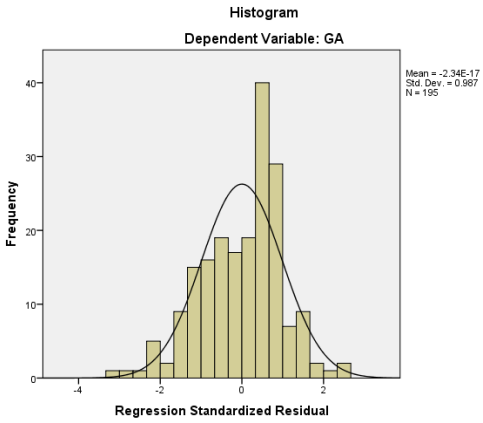


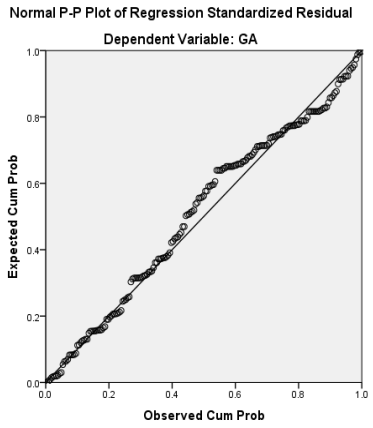
Equation 5: FT = $\alpha_{05} + \beta 2_{29}DFD + \beta_{30}DCL + \beta_{31}DPR + \beta_{32}COI + \beta_{33}VCC + \beta_{34}FA + \beta_{35}FS + \varepsilon_5$



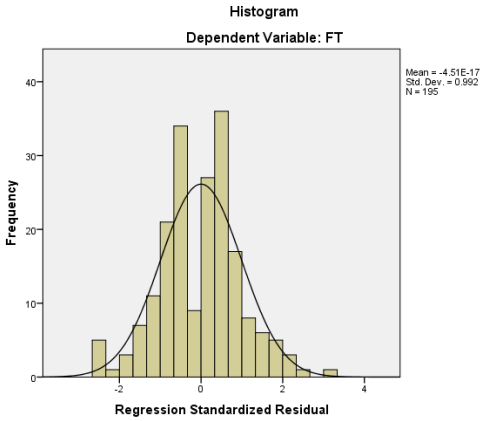


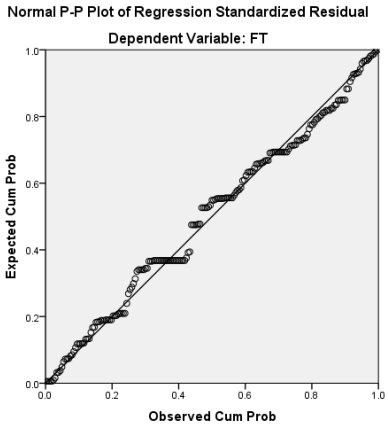
Equation 6: GA = $\alpha_{06} + \beta_{36}CA + \beta_{37}OE + \beta_{38}MR + \beta_{39}FA + \beta_{40}FS + \varepsilon_6$



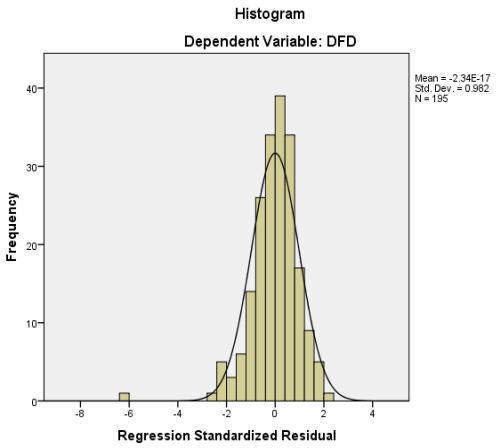


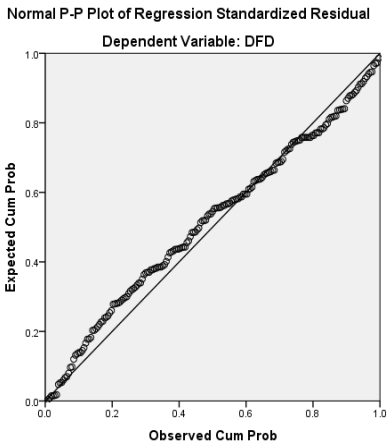
Equation 7: FT = $\alpha_{07} + \beta_{41}GA + \beta_{42}FA + \beta_{43}FS + \varepsilon_7$



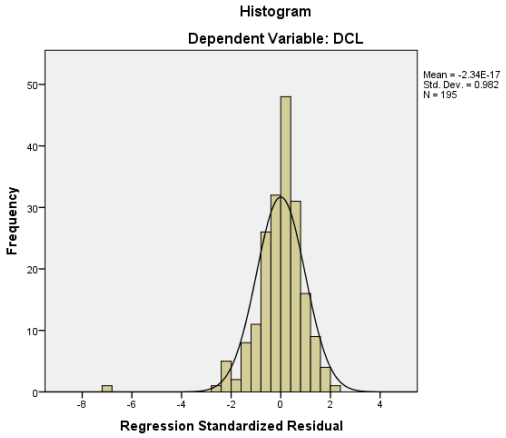


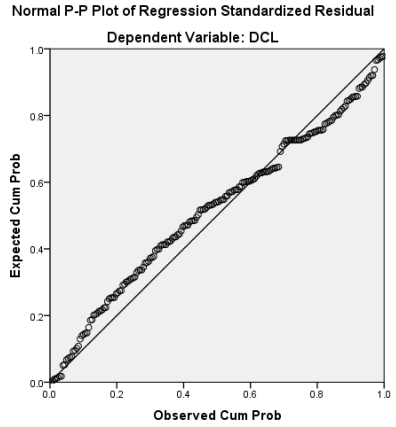
Equation 8: DFD = $\alpha_{08} + \beta_{44}LT + \beta_{45}BA + \beta_{46}PA + \beta_{47}MC + \beta_{48}SR + B_{49}FA + \beta_{50}FS + \varepsilon_8$



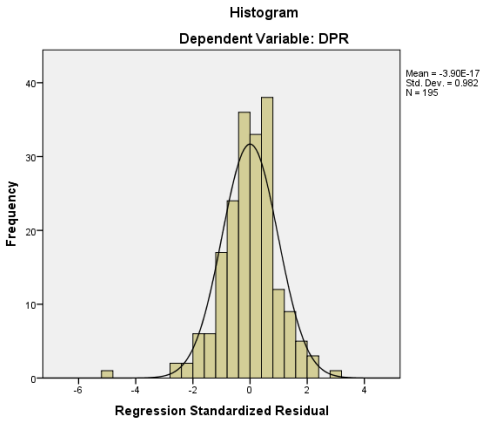


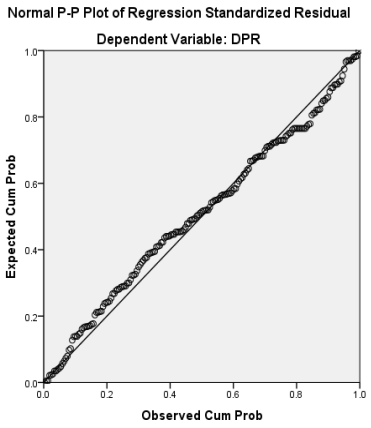
Equation 9: DCL = $\alpha_9 + \beta_{51}LV + \beta_{52}BA + \beta_{53}PA + \beta_{54}MC + \beta_{55}SR + \beta_{56}FA + \beta_{57}FS + \varepsilon_9$



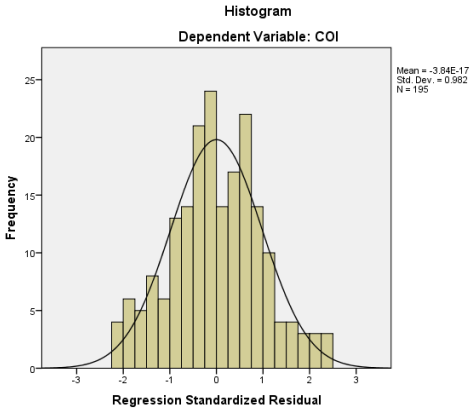


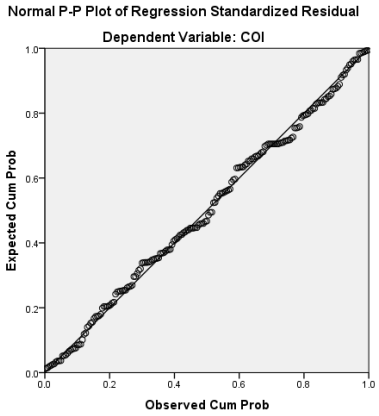
Equation 10: DPR = $\alpha_{10} + \beta_{58}LT + \beta_{59}BA + \beta_{60}PA + \beta_{61}MC + \beta_{62}SR + \beta_{63}FA + \beta_{64}FS + \varepsilon_{10}$



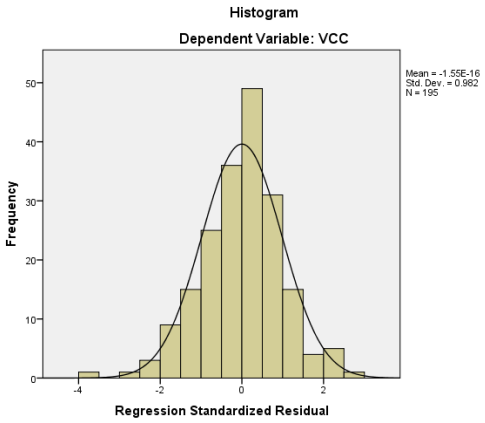


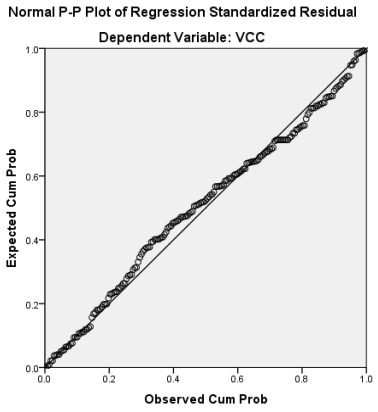
Equation 11: COI = $\alpha_{11} + \beta_{65}LT + \beta_{66}BA + \beta_{67}PA + \beta_{68}MC + \beta_{69}SR + \beta_{70}FA + \beta_{71}FS + \varepsilon_{11}$



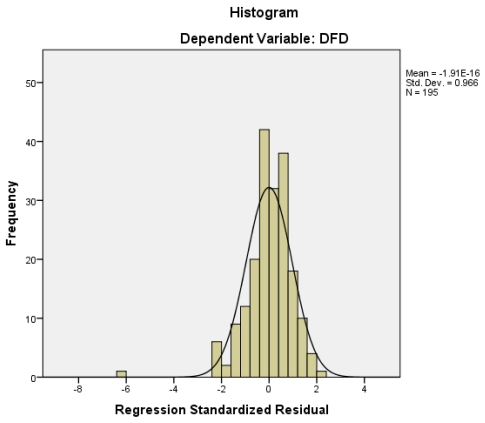


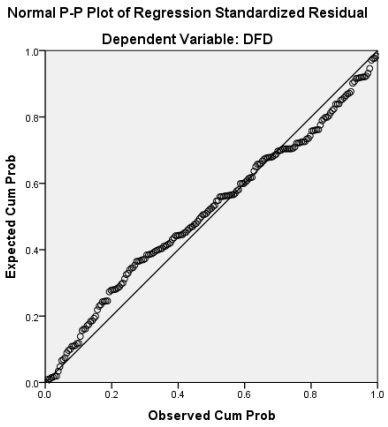
Equation 12: VCC = $\alpha_{12} + \beta_{72}LT + \beta_{73}BA + \beta_{74}PA + \beta_{75}MC + B_{76}SR + \beta_{77}FA + \beta_{78}FS + \varepsilon_{12}$



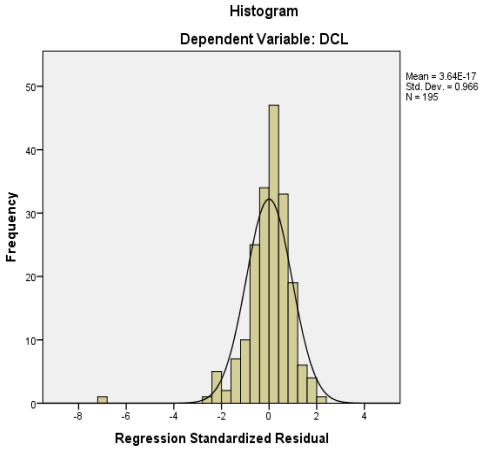


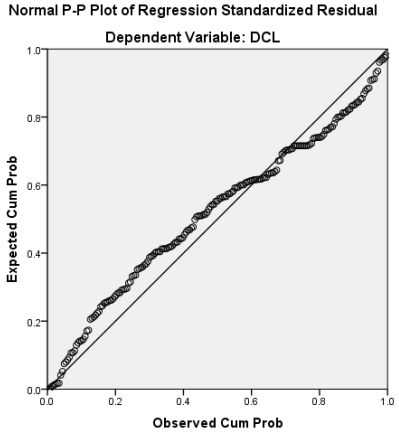
Equation 13: DFD = $\alpha_{13} + \beta_{79}LT + \beta_{80}BA + \beta_{81}PA + \beta_{82}MC + \beta_{83}SR + \beta_{84}AL + B_{85}(LT*AL) + \beta_{86}(BA*AL) + \beta_{87}(PA*AL) + \beta_{88}(MC*AL) + B_{89}(SR*AL) + \beta_{90}FA + \beta_{91}FS + \varepsilon_{13}$



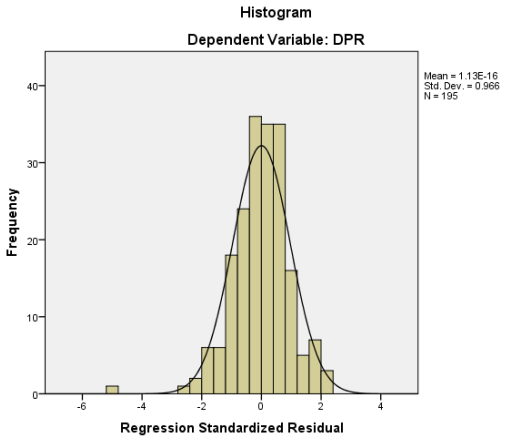


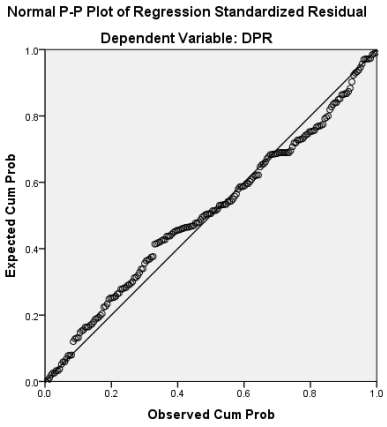
Equation 14: DCL = $\alpha_{14} + \beta_{92}LT + \beta_{93}BA + \beta_{94}PA + \beta_{95}MC + \beta_{96}SR + \beta_{97}AL + \beta_{98}(LT*AL) + \beta_{99}(BA*AL) + \beta_{100}(PA*AL) + \beta_{101}(MC*AL) + \beta_{102}(SR*AL) + \beta_{103}FA + \beta_{104}FS + \varepsilon_{14}$



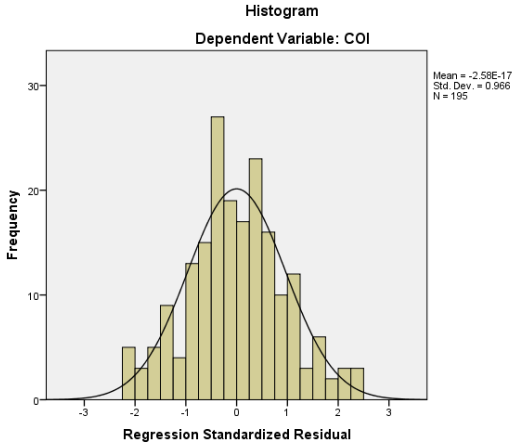


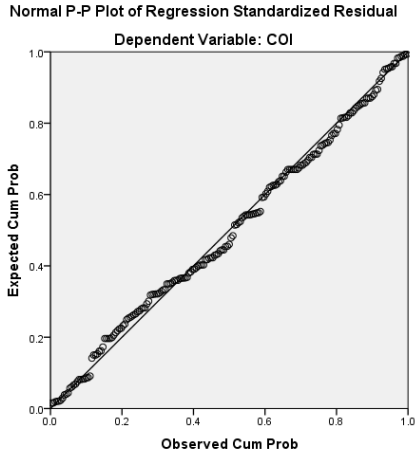
Equation 15: DPR = $\alpha_{15} + \beta_{105}LT + \beta_{106}BA + \beta_{107}PA + \beta_{108}MC + \beta_{109}SR + B_{110}AL + \beta_{111}(LT*AL) + \beta_{112}(BA*AL) + \beta_{113}(PA*AL) + \beta_{114}(MC*AL) + \beta_{115}(SR*AL) + \beta_{116}FA + \beta_{117}FS + \varepsilon_{15}$



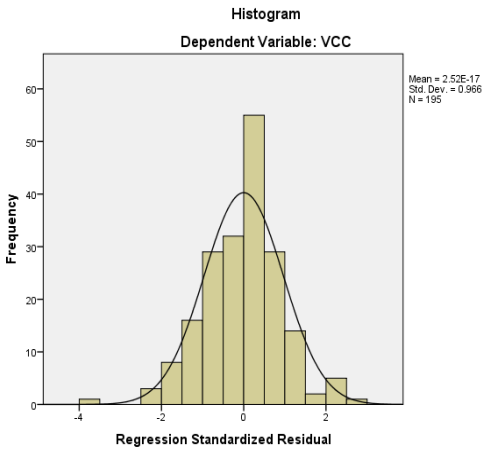


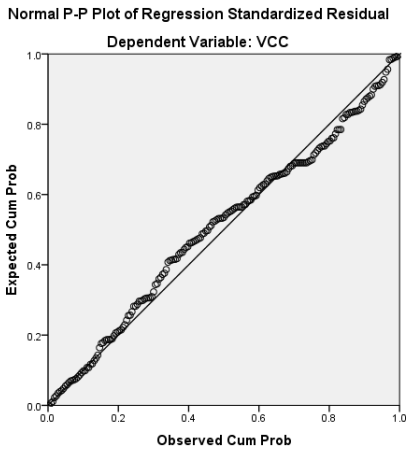
Equation 16: COI = $\alpha_{16} + \beta_{118}LT + \beta_{119}BA + \beta_{120}PA + \beta_{121}MC + \beta_{122}SR + \beta_{123}AL + \beta_{124}(LT*AL) + \beta_{125}(BA*AL) + \beta_{126}(PA*AL) + \beta_{127}(MC*AL) + \beta_{128}(SR*AL) + \beta_{129}FA + \beta_{130}FS + \varepsilon_{16}$





Equation 17: VCC = $\alpha_{17} + \beta_{131}LT + \beta_{132}BA + \beta_{133}PA + \beta_{134}MC + \beta_{135}SR + B_{136}AL + \beta_{137}(LT*AL) + \beta_{138}(BA*AL) + \beta_{139}(PA*AL) + \beta_{140}(MC*AL) + \beta_{141}(SR*AL) + \beta_{142}FA + \beta_{143}FS + \varepsilon_{17}$





1.3 Independence of the Error Terms

In regression analysis, it is assumed that each predicted value is independent. The predicted value is not related to any other prediction; that is they are not sequenced by any variable. This research employs Durbin-Watson to test on the assumption of autocorrelation. At the rule of thumb, if Durbin-Watson (d statistics) is found nearly 2 ($1.5 < d < 2.5$), it is assumed that there is no autocorrelation. From the results of Dubin-Watson d statistics, are about 1.687 – 2.016. The result from Table E1 demonstrates that Durbin-Watson statistics of all equations are around 2. Hence, it could be assume that the error terms are independence or no autocorrelation for all models.

Table E1 Results of Autocorrelation Testing

Equations	Durbin-Watson (d Statistics)
Equation 1: CA = $\alpha_{01} + \beta_1 DFD + \beta_2 DCL + \beta_3 DPR + \beta_4 COI + \beta_5 VCC + \beta_6 FA + \beta_7 FS + \varepsilon_1$	1.989
Equation 2: OE = $\alpha_{02} + \beta_8 DFD + \beta_9 DCL + \beta_{10} DPR + \beta_{11} COI + \beta_{12} VCC + \beta_{13} FA + \beta_{14} FS + \varepsilon_2$	1.882
Equation 3: MR = $\alpha_{03} + \beta_{15} DFD + \beta_{16} DCL + \beta_{17} DPR + \beta_{18} COI + \beta_{19} VCC + \beta_{20} FA + \beta_{21} FS + \varepsilon_3$	1.779
Equation 4: GA = $\alpha_{04} + \beta_{22} DFD + \beta_{23} DCL + \beta_{24} DPR + \beta_{25} COI + \beta_{26} VCC + \beta_{27} FA + \beta_{28} FS + \varepsilon_4$	1.775
Equation 5: FT = $\alpha_{05} + \beta 2_{29} DFD + \beta_{30} DCL + \beta_{31} DPR + \beta_{32} COI + B_{33} VCC + \beta_{34} FA + \beta_{35} FS + \varepsilon_5$	1.911
Equation 6: GA = $\alpha_{06} + \beta_{36} CA + \beta_{37} OE + \beta_{38} MR + \beta_{39} FA + \beta_{40} FS + \varepsilon_6$	1.815
Equation 7: FT = $\alpha_{07} + \beta_{41} GA + \beta_{42} FA + \beta_{43} FS + \varepsilon_7$	1.791
Equation 8: DFD = $\alpha_{08} + \beta_{44} LT + \beta_{45} BA + \beta_{46} PA + \beta_{47} MC + \beta_{48} SR + B_{49} FA + \beta_{50} FS + \varepsilon_8$	1.777
Equation 9: DCL = $\alpha_9 + \beta_{51} LT + \beta_{52} BA + \beta_{53} PA + \beta_{54} MC + \beta_{55} SR + B_{56} FA + \beta_{57} FS + \varepsilon_9$	1.879
Equation 10: DPR = $\alpha_{10} + \beta_{58} LTV + \beta_{59} BAS + \beta_{60} PAP + \beta_{61} MCT + \beta_{62} SRM + B_{63} FA + \beta_{64} FS + \varepsilon_{10}$	1.687

Table E1 Results of Autocorrelation Testing (continued)

Equations	Durbin-Watson (d Statistics)
Equation 11: COI = $\alpha_{11} + \beta_{65}LTV + \beta_{66}BAS + \beta_{67}PAP + \beta_{68}MCT + B_{69}SRM + \beta_{70}FA + \beta_{71}FS + \varepsilon_{11}$	1.970
Equation 12: VCC = $\alpha_{12} + \beta_{72}LTV + \beta_{73}BAS + \beta_{74}PAP + \beta_{75}MCT + B_{76}SRM + \beta_{77}FA + \beta_{78}FS + \varepsilon_{12}$	2.016
Equation 13: DFD = $\alpha_{13} + \beta_{79}LTV + \beta_{80}BAS + \beta_{81}PAP + \beta_{82}MCT + \beta_{83}SRM + B_{84}ALN + B_{85}(LTV*ALN) + \beta_{86}(BAS*ALN) + B_{87}(PAP*ALN) + \beta_{88}(MCT*ALN) + B_{89}(SRM*ALN) + \beta_{90}FA + \beta_{91}FS + \varepsilon_{13}$	1.733
Equation 14: DCL = $\alpha_{14} + \beta_{92}LT + \beta_{93}BA + \beta_{94}PA + \beta_{95}MC + \beta_{96}SR + \beta_{97}AL + \beta_{98}(LT*AL) + \beta_{99}(BA*AL) + \beta_{100}(PAP*AL) + \beta_{101}(MC*AL) + \beta_{102}(SRM*AL) + \beta_{103}FA + \beta_{104}FS + \varepsilon_{14}$	1.891
Equation 15: DPR = $\alpha_{15} + \beta_{105}LT + \beta_{106}BA + \beta_{107}PA + \beta_{108}MC + \beta_{109}SR + \beta_{110}AL + \beta_{111}(LT*AL) + \beta_{112}(BA*AL) + \beta_{113}(PA*AL) + \beta_{114}(MC*AL) + \beta_{115}(SR*AL) + \beta_{116}FA + \beta_{117}FS + \varepsilon_{15}$	1.746
Equation 16: COI = $\alpha_{16} + \beta_{118}LT + \beta_{119}BA + \beta_{120}PA + \beta_{121}MC + \beta_{122}SR + \beta_{123}AL + \beta_{124}(LT*AL) + \beta_{125}(BA*AL) + \beta_{126}(PA*AL) + \beta_{127}(MC*AL) + \beta_{128}(SR*AL) + \beta_{129}FA + \beta_{130}FS + \varepsilon_{16}$	1.956

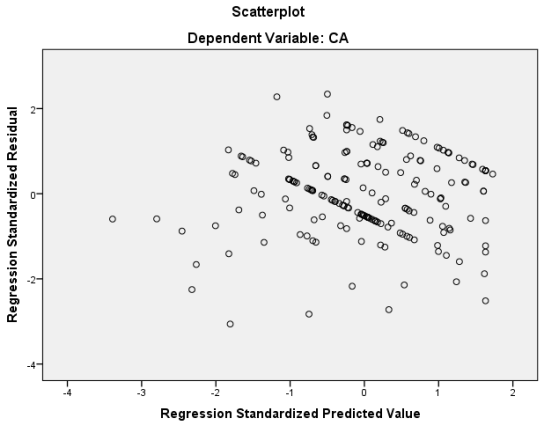
Table E1 Results of Autocorrelation Testing (continued)

Equations	Durbin-Watson (d Statistics)
Equation 17: VCC = $\alpha_{17} + \beta_{131}LT + \beta_{132}BA + \beta_{133}PA + \beta_{134}MC + \beta_{135}SR + \beta_{136}AL + \beta_{137}(LT*AL) + \beta_{138}(BA*AL) + \beta_{139}(PA*AL) + \beta_{140}(MC*AL) + \beta_{141}(SR*AL) + \beta_{142}FA + \beta_{143}FS + \varepsilon_{17}$	1.993

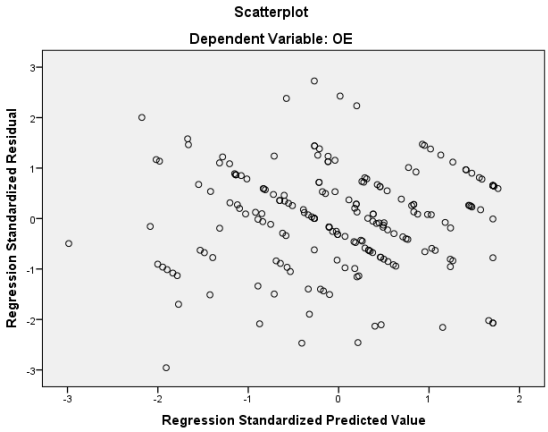
4. Constant variance of the error terms (Homoscedasticity)

This assumption is constancy of the error variance or heteroscedasticity problem which can distort the results by increasing on possibility of a Type I error. The examinations both visual residual plots against the predictor variables and the Breusch-Pagan test are employed to test for heteroscedasticity.

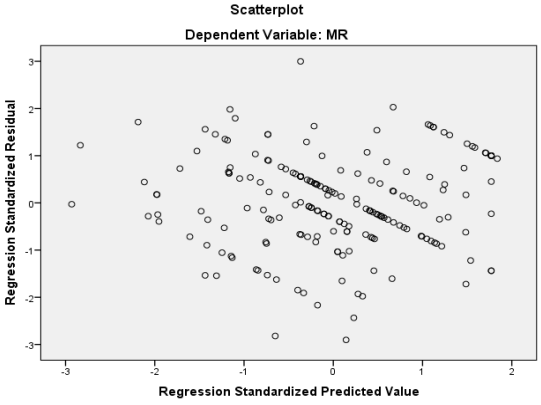
Equation 1: CA = $\alpha_{01} + \beta_1 DFD + \beta_2 DCL + \beta_3 DPR + \beta_4 COI + \beta_5 VCC + \beta_6 FA + \beta_7 FS + \varepsilon_1$



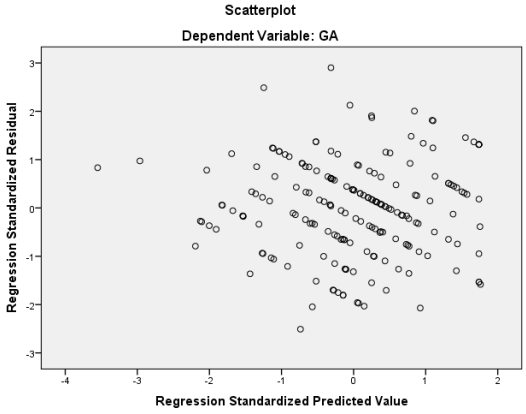
Equation 2: OE = $\alpha_{02} + \beta_8 DFD + \beta_9 DCL + \beta_{10} DPR + \beta_{11} COI + \beta_{12} VCC + \beta_{13} FA + \beta_{14} FS + \varepsilon_2$



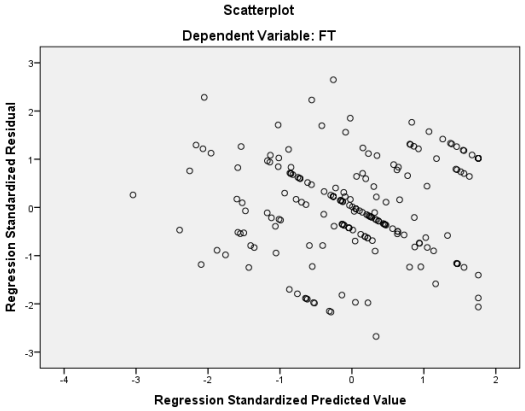
Equation 3: MR = $\alpha_{03} + \beta_{15} DFD + \beta_{16} DCL + \beta_{17} DPR + \beta_{18} COI + \beta_{19} VCC + \beta_{20} FA + \beta_{21} FS + \varepsilon_3$



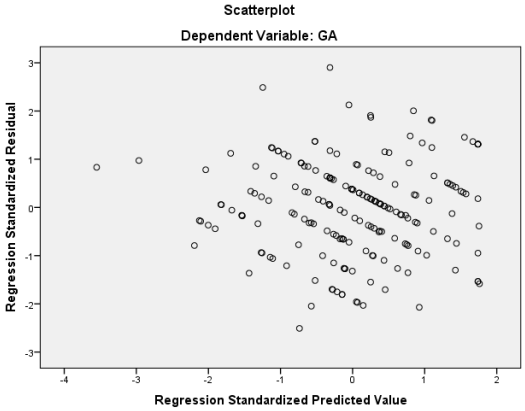
Equation 4: GA = $\alpha_{04} + \beta_{22} DFD + \beta_{23} DCL + \beta_{24} DPR + \beta_{25} COI + \beta_{26} VCC + \beta_{27} FA + \beta_{28} FS + \varepsilon_4$



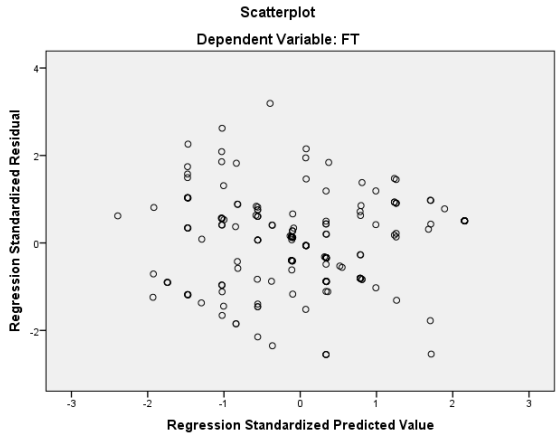
Equation 5: FT = $\alpha_{05} + \beta 2_{29} DFD + \beta_{30} DCL + \beta_{31} DPR + \beta_{32} COI + B_{33} VCC + \beta_{34} FA + \beta_{35} FS + \varepsilon_5$



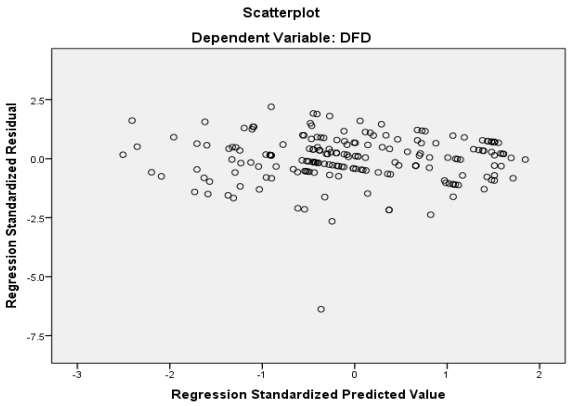
Equation 6: GA = $\alpha_{06} + \beta_{36} CA + \beta_{37} OE + \beta_{38} MR + \beta_{39} FA + \beta_{40} FS + \varepsilon_6$



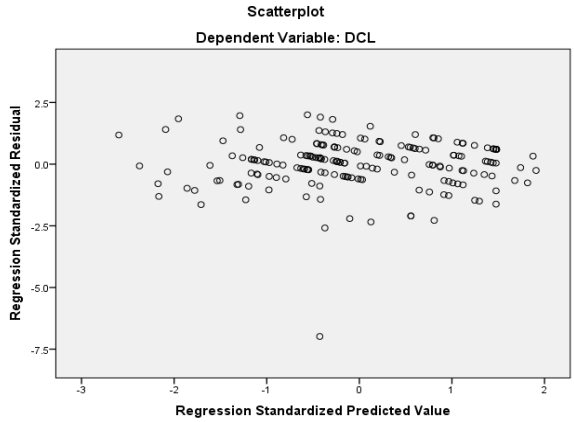
Equation 7: FT = $\alpha_{07} + \beta_{41}GA + \beta_{42}FA + \beta_{43}FS + \varepsilon_7$



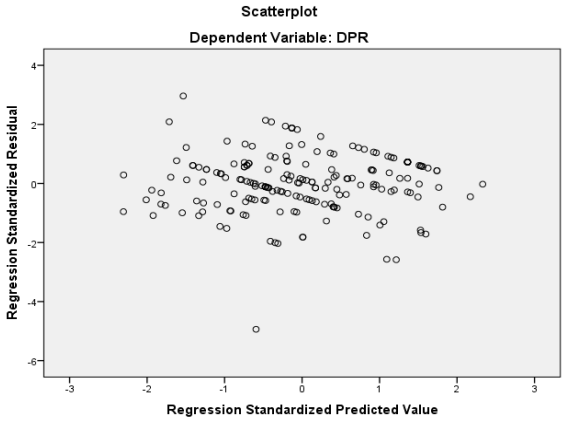
Equation 8: DFD = $\alpha_{08} + \beta_{44}LT + \beta_{45}BA + \beta_{46}PA + \beta_{47}MC + \beta_{48}SR + \beta_{49}FA + \beta_{50}FS + \varepsilon_8$



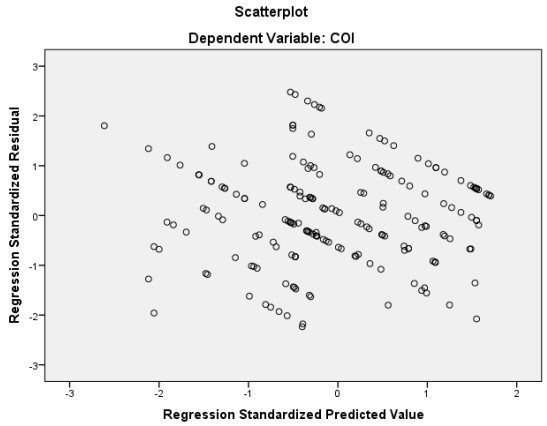
Equation 9: DCL = $\alpha_9 + \beta_{51}LT + \beta_{52}BA + \beta_{53}PA + \beta_{54}MC + \beta_{55}SR + \beta_{56}FA + \beta_{57}FS + \varepsilon_9$



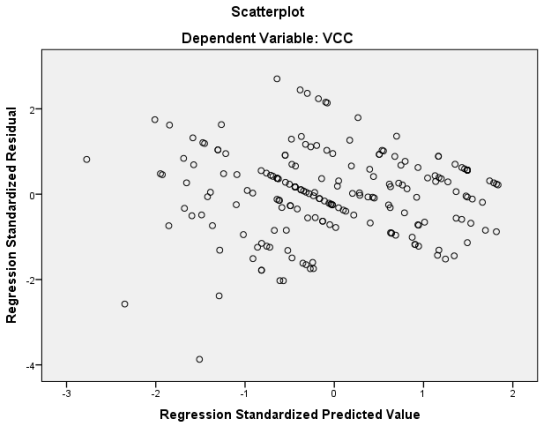
Equation 10: DPR = $\alpha_{10} + \beta_{58}LT + \beta_{59}BA + \beta_{60}PA + \beta_{61}MC + \beta_{62}SR + \beta_{63}FA + \beta_{64}FS + \varepsilon_{10}$



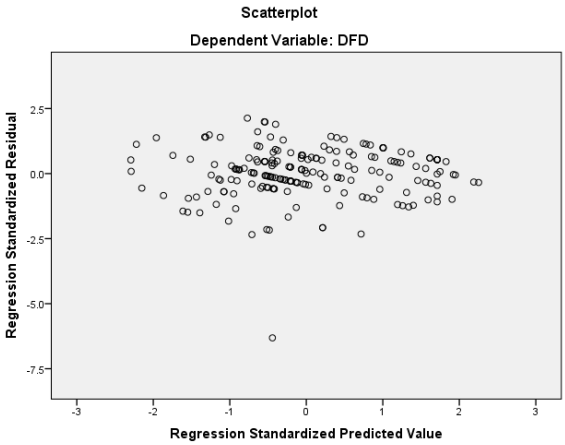
Equation 11: COI = $\alpha_{11} + \beta_{65}LT + \beta_{66}BA + \beta_{67}PA + \beta_{68}MC + \beta_{69}SR + \beta_{70}FA + \beta_{71}FS + \varepsilon_{11}$



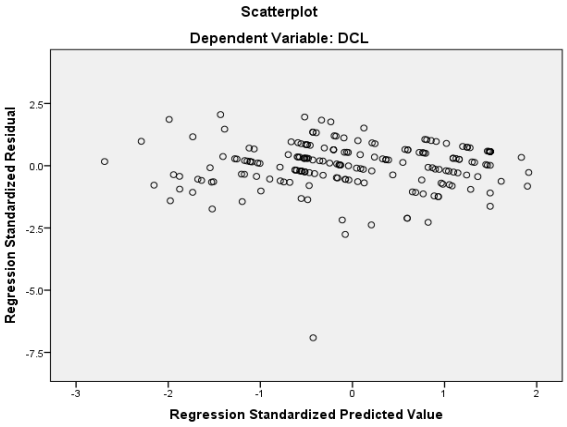
Equation 12: VCC = $\alpha_{12} + \beta_{72}LT + \beta_{73}BA + \beta_{74}PA + \beta_{75}MC + \beta_{76}SR + \beta_{77}FA + \beta_{78}FS + \varepsilon_{12}$



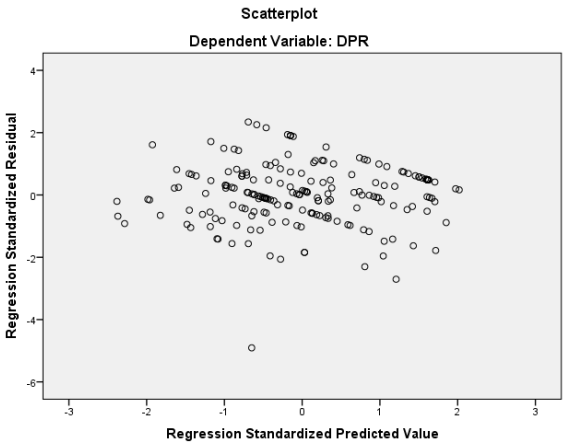
Equation 13: DFD = $\alpha_{13} + \beta_{79}LT + \beta_{80}BA + \beta_{81}PA + \beta_{82}MC + \beta_{83}SR + \beta_{84}AL + \beta_{85}(LT*AL) + \beta_{86}(BA*AL) + \beta_{87}(PA*AL) + \beta_{88}(MC*AL) + \beta_{89}(SR*AL) + \beta_{90}FA + \beta_{91}FS + \varepsilon_{13}$



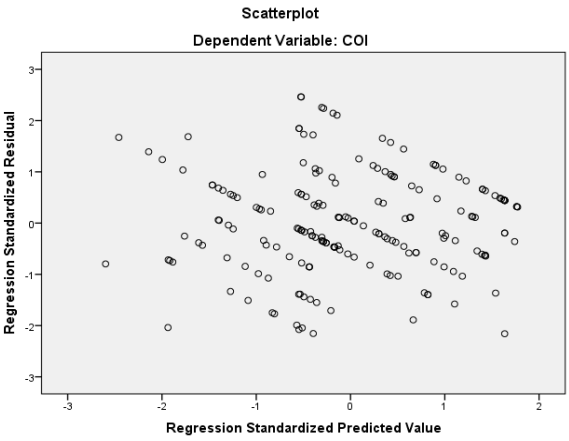
Equation 14: DCL = $\alpha_{14} + \beta_{92}LT + \beta_{93}BA + \beta_{94}PA + \beta_{95}MC + \beta_{96}SR + \beta_{97}AL + \beta_{98}(LT*AL) + \beta_{99}(BA*AL) + \beta_{100}(PA*AL) + \beta_{101}(MC*AL) + \beta_{102}(SR*AL) + \beta_{103}FA + \beta_{104}FS + \varepsilon_{14}$



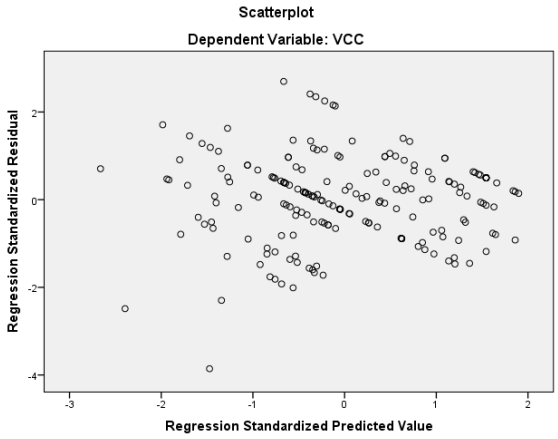
Equation 15: DPR = $\alpha_{15} + \beta_{105}LT + \beta_{106}BA + \beta_{107}PA + \beta_{108}MC + \beta_{109}SR + B_{110}AL + \beta_{111}(LT*AL) + \beta_{112}(BA*AL) + \beta_{113}(PA*AL) + \beta_{114}(MC*AL) + \beta_{115}(SR*AL) + \beta_{116}FA + \beta_{117}FS + \varepsilon_{15}$



Equation 16: COI = $\alpha_{16} + \beta_{118}LT + \beta_{119}BA + \beta_{120}PA + \beta_{121}MC + \beta_{122}SR + \beta_{123}AL + \beta_{124}(LT*AL) + \beta_{125}(BA*AL) + \beta_{126}(PA*AL) + \beta_{127}(MC*AL) + \beta_{128}(SR*AL) + \beta_{129}FA + \beta_{130}FS + \varepsilon_{16}$



Equation 17: VCC = $\alpha_{17} + \beta_{131}LT + \beta_{132}BA$
$+ \beta_{133}PA + \beta_{134}MC + \beta_{135}SR + \beta_{136}AL + \beta_{137}$
$(LT*AL) + \beta_{138}(BA*AL) + \beta_{139}(PA*AL)$
$+ \beta_{140}(MC*AL) + \beta_{141}(SR*AL) + \beta_{142}FA + \beta_{143}FS + \varepsilon_{17}$



5. Test of Multicollinearity

The ideal situation for research would have a number of independent variables highly correlated with the dependent variable, but with little correlation among themselves. Multicollinearity will occur when any single independent variable is highly correlated with other independent variables. If the independent variables have highly correlated with themselves, it impacts to result of regression analysis. Consequently, the result of regression analysis is not believable. In order to multicollinearity, this research uses Variance Inflation Factor (VIF). Nunnally (1978) explain if VIF value greater than 10, it has multicollinearity. The VIF of each equation model is less than 10 implying that there is no multicollinearity.

Table E2 Variance Inflation Factor and Tolerance of each Equation Model

Independent Variables	Dependent Variables																	
	Equation 1: CA		**Equation 2: OE**		**Equation 3: MR**		**Equation 4: GA**		**Equation 5: FT**		**Equation 6: GA**		**Equation 7: FT**		**Equation 8: DFD**		**Equation 9: DCL**	
	Tole-rance	VIF	Tole-rance	VIF	Tole-rance	VIF	Tole-rance	VIF	Tole-rance	VIF	Tole-rance	VIF	Tole-rance	VIF	Tole-rance	VIF	Tole-rance	VIF
DFD	.447	2.238	.447	2.238	.447	2.238	.447	2.238	.447	2.238								
DCL	.333	3.004	.333	3.004	.333	3.004	.333	3.004	.333	3.004								
DPR	.351	2.853	.351	2.853	.351	2.853	.351	2.853	.351	2.853								
COI	.327	3.058	.327	3.058	.327	3.058	.327	3.058	.327	3.058								
VCC	.317	3.157	.317	3.157	.317	3.157	.317	3.157	.317	3.157								
CA											.370	2.684						
OE											.311	3.290						
MR											.432	2.305	.988	1.012				
LT															.436	2.295	.436	2.295
BA															.295	3.388	.295	3.388
PA															.274	3.653	.274	3.653
MC															.388	2.578	.388	2.578
SR															.331	3.021	.331	3.021
AGE	.951	1.051	.951	1.051	.951	1.051	.951	1.051	.951	1.051	.936	1.069	.964	1.038	.945	1.058	.945	1.058
SIZE	.950	1.053	.950	1.053	.950	1.053	.950	1.053	.950	1.053	.920	1.086	.953	1.049	.948	1.055	.948	1.055

Table E2 Variance Inflation Factor and Tolerance of each Equation Model (continued)

Independent Variables	Dependent Variables															
	Equation 10: DPR		Equation 11: COI		Equation 12: VCC		Equation 13: DFD		Equation 14: DCL		Equation 15: DPR		Equation 16: COI		Equation 17: VCC	
	Tole-rance	VIF	Tole-rance	VIF	Tole-rance	VIF	Tole-rance	VIF	Tole-rance	VIF	Tole-rance	VIF	Tole-rance	VIF	Tole-rance	VIF
LT	.436	2.295	.436	2.295	.436	2.295	.423	2.363	.423	2.363	.423	2.363	.423	2.363	.423	2.363
BA	.295	3.388	.295	3.388	.295	3.388	.244	4.091	.244	4.091	.244	4.091	.244	4.091	.244	4.091
PA	.274	3.653	.274	3.653	.274	3.653	.184	5.436	.184	5.436	.184	5.436	.184	5.436	.184	5.436
MC	.388	2.578	.388	2.578	.388	2.578	.355	2.819	.355	2.819	.355	2.819	.355	2.819	.355	2.819
SR	.331	3.021	.331	3.021	.331	3.021	.313	3.193	.313	3.193	.313	3.193	.313	3.193	.313	3.193
AL							.253	3.955	.253	3.955	.253	3.955	.253	3.955	.253	3.955
LT*AL							.427	2.339	.427	2.339	.427	2.339	.427	2.339	.427	2.339
BA*AL							.217	4.609	.217	4.609	.217	4.609	.217	4.609	.217	4.609
PA*AL							.207	4.824	.207	4.824	.207	4.824	.207	4.824	.207	4.824
MC*AL							.287	3.480	.287	3.480	.287	3.480	.287	3.480	.287	3.480
SR*AL							.185	5.413	.185	5.413	.185	5.413	.185	5.413	.185	5.413
AGE	.945	1.058	.945	1.058	.945	1.058	.919	1.088	.919	1.088	.919	1.088	.919	1.088	.919	1.088
SIZE	.948	1.055	.948	1.055	.948	1.055	.926	1.080	.926	1.080	.926	1.080	.926	1.080	.926	1.080

ที่ ศธ 0530.10/ 762

คณะการบัญชีและการจัดการ
มหาวิทยาลัยมหาสารคาม
อำเภอกันทรวิชัย จังหวัดมหาสารคาม
44150

10 มิถุนายน 2559

เรื่อง ขอความอนุเคราะห์กรอกแบบสอบถาม

เรียน ผู้อำนวยการฝ่ายบัญชี/ผู้จัดการฝ่ายบัญชี

ด้วย นายอนุชา พุฒิกูลสาคร นิสิตระดับบริญญาเอก คณะการบัญชีและการจัดการ มหาวิทยาลัยมหาสารคาม กำลังศึกษาวิทยานิพนธ์ เรื่อง " การบัญชีต้นทุนเพื่อการจัดการคุณภาพเชิงกลยุทธ์และความยั่งยืนของกิจการ : การตรวจสอบเชิงประจักษ์ของธุรกิจการผลิตที่ได้รับการรับรอง ISO 9000 ในประเทศไทย " ซึ่งเป็นส่วนหนึ่งของการทำวิทยานิพนธ์ หลักสูตรปรัชญาดุษฎีบัณฑิต (ปร.ด.) และการศึกษาในครั้งนี้ได้เน้นให้นิสิตศึกษาข้อมูลด้วยตนเอง ดังนั้น เพื่อให้การจัดทำวิทยานิพนธ์เป็นไปด้วยความเรียบร้อยและบรรลุวัตถุประสงค์ คณะการบัญชีและการจัดการ มหาวิทยาลัยมหาสารคาม จึงใคร่ขออนุญาตให้ นายอนุชา พุฒิกูลสาคร ศึกษาและเก็บรวบรวมในรายละเอียดตามแบบสอบถามที่แนบมาพร้อมนี้

คณะการบัญชีและการจัดการ มหาวิทยาลัยมหาสารคาม หวังเป็นอย่างยิ่งว่าจะได้รับความอนุเคราะห์จากท่านในการให้ข้อมูลในครั้งนี้ และขอขอบคุณมา ณ โอกาสนี้

ขอแสดงความนับถือ

(รองศาสตราจารย์ ดร.วรพฤกษ์บารมี อุดสาหะวาณิชกิจ)
คณบดีคณะการบัญชีและการจัดการ
มหาวิทยาลัยมหาสารคาม

APPENDIX F

Cover Letter and Questionnaire: English Version

Questionnaire to the Ph.D. Dissertation Research entitled

"Strategic Quality Management Costing and Firm Sustainability: An Empirical Investigation of ISO 9000 Manufacturing Businesses in Thailand"

Dear Sir,

This research is a part of doctoral dissertation of Mr. Anucha Puttikunsakon at the Mahasarakham Business School, Mahasarakham University, Thailand. The objective of this research is to examine the relationships between strategic quality management costing and firm sustainability of ISO 9000 manufacturing firms in Thailand. The questionnaire is divided into 7 parts

Part 1: Demographic data of accounting executive of ISO 9000 manufacturing firms in Thailand

Part 2: General data of ISO 9000 manufacturing firms in Thailand

Part 3: Opinion on strategic quality management costing of ISO 9000 manufacturing firms in Thailand

Part 4: Opinion on the performance of ISO 9000 manufacturing firms in Thailand

Part 5: Opinion on the influence of internal factors on strategic quality management costing of ISO 9000 manufacturing firms in Thailand

Part 6: Opinion on the influence of external factors on strategic quality management costing of ISO 9000 manufacturing firms in Thailand

Part 7: Recommendations and suggestions for strategic quality management costing and firm sustainability of ISO 9000 manufacturing firms in Thailand

Your answer will be kept as confidentiality and your information will not be shared with any outsider party without your permission. If you want a summary of this research, please indicate your E-mail address or attach your business card with this questionnaire. The summary will be mailed to you as soon as the analysis is completed.

Thank you for your time answering all the questions. I have no doubt that your answer will provide valuable information for academic advancement. If you have any questions with respect to this research, please contact me directly.

Sincerely yours,

(Mr. Anucha Puttikunsakon)
Ph.D. Student in Accounting
Mahasarakham University, Thailand

Contact Info:
Office No: 043-754333 ext.3431
Fax No: 043-754322
Mobile phone: 094-541-8465
E-mail: putekunsakon@hotmail.com

Part 1 Demographic data of accounting executive of ISO 9000 manufacturing firm in Thailand

1. Gender

□Male □Female

2. Age

□Less than 30 years old □30 - 40 years old

□41 - 50 years old □More than 50 years old

3. Marital status

□Single □Married

□Divorced

4. Educational level

□Bachelor's degree or Undergraduate

□Higher than undergraduate

5. Working experience in your current company

□Less than 5 years □5 - 10 years

□11 - 15 years □More than 15 years

6. Average monthly income

□Less than 75,000 Baht □75,000–100,000 Baht

□100,001–125,000 Baht □More than 125,000 Baht

7. Working position at your current company

□Accounting director □Accounting manager

□Others (Please specify)……..…

Part 2 General data of textile manufacturing businesses in Thailand

1. Type of business

□Company □Partnership

2. Industrial category

□Production, processing and preservation of meat, fish, fruit, vegetables, oils and fats

□Dairy products

□Grain mill products, starches and prepared animal feeds

Part 2 General data of textile manufacturing firms in Thailand

2. Industrial category

□Other food products □Beverages
□Tobacco products □Textiles
□Leather/footwear □Wood products
□Paper & paper products □Publishing/printing
□Petroleum products □Basic chemicals
□Other chemical products □Man-made fibers
□Rubber products □Plastic products
□Glass & glass products □Ceramic/clay products
□Cement/concrete □Cutting, shaping and finishing of stone
□Basic iron/steel □Precious/non ferrous metals
□Casting of metals □Metal products
□Machinery and equipment □Production of electricity
□Manufacture of gas □Others category (specify)…

3. Operational capital of the firm

□Less than 25,000,000 Baht □25,000,000 – 50,000,000Baht
□50,000,001 - 75,000,000Baht □More than75,000,000 Baht

4. Total assets of the firm

□Less than 50,000,000 Baht □50,000,000 - 100,000,000Baht
□100,000,001 - 150,000,000Baht □More than150,000,000 Baht

5. Number of employees

□Less than 50 □50 – 100
□101 – 150 □More than 150

6. The period of time in operating business

□Less than 5 years □ 5 – 10 years
□11 – 15 years □More than 15 years

7. The period of time in ISO 9000 certificate

□Less than 5years □5 – 7 years
□8 – 10 years □More than 10 years

8. The average revenue of the firm per year

□Less than 10,000,000 Baht □10,000,000 – 30,000,000 Baht
□30,000,001 – 30,000,000 Baht □More than 50,000,000 Baht

Part 3 Opinion on strategic quality management costing of ISO 9000 manufacturing firms in Thailand

Strategic quality management costing	Opinion Levels				
	Strongly Agree 5	Agree 4	Neutral 3	Disagree 2	Strongly Disagree 1
Product Function Development Expense 1. Firm believes that the great product function development system to help make the product of firm has increased quality.	5	4	3	2	1
2. Firm emphasizes that allocation the budget to develop the product function to meet the various standards the systematic will result firm's product was accepted for consumers increasingly.	5	4	3	2	1
3. Firm focuses on investing in the technology to application development function to meet the requirements of consumers at all times can help grow market share has increasingly.	5	4	3	2	1
4. Firm supports employee to attend training in design and products function development for unique can help respond to market demands the better.	5	4	3	2	1
Dynamic Customer Learning Cost 5. Firm believes that customer learning is very well will be help to quality management more effectively.	5	4	3	2	1
6. Firm encourages employees to attend train continued about customer management modern which will be help achieve operate the better.	5	4	3	2	1
7. Firm focuses on invest in develop a concrete customer database will be help monitor and evaluate requirements of customer is fast, accurate, and more effectively.	5	4	3	2	1

Part 3 Opinion on strategic quality management costing of ISO 9000 manufacturing firms in Thailand (continued)

Strategic quality management costing	Opinion Levels				
	Strongly Agree 5	Agree 4	Neutral 3	Disagree 2	Strongly Disagree 1
Dynamic Customer Learning Cost 8. Firm supports to communicate with customers regularly will help introduce product and services to meet the customer's requirements better.	5	4	3	2	1
Defect Prevention Risk Expenditure 9. Firm believes that the risk prevention system resulting from defects, in a great system will help make the administration more effectively.	5	4	3	2	1
10. Firm emphasizes that investing in order to develop a system involves risk prevent with a concrete allow to operate more effectively.	5	4	3	2	1
11. Firm focuses on the expenditure classification associated risk prevention resulting from defects the systematic which improves the operate efficiency of the firms so much the more.	5	4	3	2	1
12. Firm commits to report the damage caused by defects and propose solutions consistently helps to evaluate and standardize the defense the better.	5	4	3	2	1
Continuous Organizational Improvement Investment 13. Firm believes that the continuous improvement development will help the administration more effectively.	5	4	3	2	1
14. Firm focuses on the budget allocated to the organizational improvement development of all systems is concrete which affect available resources can be distributed to adequately and more appropriately.	5	4	3	2	1

Part 3 Opinion on strategic quality management costing of ISO 9000 manufacturing firms in Thailand (continued)

Strategic quality management costing	Opinion Levels				
	Strongly Agree 5	Agree 4	Neutral 3	Disagree 2	Strongly Disagree 1
15. Firm commits to classification the organizational improvement development expenditure is concrete helps can monitor and command to responsible agencies to be more effectiveness.	5	4	3	2	1
16. Firm supports to the reporting relate cost and benefits case by organizational improvement investment is continuous which help achieve a worthwhile and helpful in the maximum operate.	5	4	3	2	1
Value Chain Creativity Budget 17. Firm believes that value-added activity analysis for the organization in a systematic will help the administration to target achieve is better.	5	4	3	2	1
18. Firm emphasizes that budget allocated to the design and new work processes improved throughout the organization will help capacity increase in operate organization to more efficiently.	5	4	3	2	1
19. Firm supports to the employees award and departments for concept or guidelines proposed to increase performance and operation improves of the organization continued will help successful well increasingly.	5	4	3	2	1
20. Firm focuses on the reporting of costs and expenses incurred from the creative of each segment regularly will help the administration to achieve maximum benefits.	5	4	3	2	1

Section 4 Opinion on the performance of ISO 9000 manufacturing firms in Thailand

Performance	Opinion Levels				
	Strongly Agree 5	Agree 4	Neutral 3	Disagree 2	Strongly Disagree 1
Customer Acceptance 1 Firm has been recognized by the customers continued from the past to present.	5	4	3	2	1
2. Firm can maintain regular customers as well and have new customers occur continuously.	5	4	3	2	1
3. Firm has been mentioned by customers continuous that firm's production to meet demand and appropriate price.	5	4	3	2	1
4. Firm has customer loyalty with products and services of the firm unaltered though the market is a replacement products or new services pattern it happened.	5	4	3	2	1
Organizational Excellence 5. Firm has administrative compliant with the standard various all relevant and always timely.	5	4	3	2	1
6. Firm has uniqueness features and operating methods identity which prominent very clearly.	5	4	3	2	1
7. Firm has ability to determine the position of products and services in the market very clearly.	5	4	3	2	1
8. Firm has resource *management* system with maximize efficiency and effectiveness.	5	4	3	2	1

Section 4 Opinion on the performance of ISO 9000 manufacturing firms in Thailand (continued)

Performance	Opinion Levels				
	Strongly Agree 5	Agree 4	Neutral 3	Disagree 2	Strongly Disagree 1
Market Reliability 9. When referring to the organizations that have management quality and most effective, the firm is one of the organizations that received recognition from the market and involved person always timely.	5	4	3	2	1
10. Firm receives collaboration and supports in conducting various activities from organizations external regularly.	5	4	3	2	1
11. Firm receives trusted and faith regarding corporate social responsibility from the community and public the good always.	5	4	3	2	1
12. Firm receives trustworthiness from the investors both domestic and international about the potential of organizational on the management professional.	5	4	3	2	1
Goal Achievement 13. Firm can achieve the objectives and mission of the organization as well.	5	4	3	2	1
14. Firm can generate a return to stakeholders achieved on the target.	5	4	3	2	1
15. Firm can increase productivity in operations, both monetary and non-monetary meet expected.	5	4	3	2	1
16. Firm has a growth rate of profit and market share increase achieved on the target.	5	4	3	2	1

Section 4 Opinion on the performance of ISO 9000 manufacturing firms in Thailand (continued)

Performance	Opinion Levels				
	Strongly Agree 5	Agree 4	Neutral 3	Disagree 2	Strongly Disagree 1
Firm Sustainability 17. Firm can create knowledge, innovation, and an asset for the benefit of the organization continued.	5	4	3	2	1
18. Firm sure that to bring the business to survive in the business. Although faced with economic crisis and the intense competition in the future.	5	4	3	2	1
19. Firm has financial status and performance that stability and security can continue to run the business in the long-term.	5	4	3	2	1
20. Firm has organizational culture emphasizes cooperation from organization's members every for creating business stability and growth both present and future.	5	4	3	2	1

Section 5 Opinion on the influence of internal factors on strategic quality management costing of ISO 9000 manufacturing firms in Thailand

Internal Environmental Operation	Opinion Levels				
	Strongly Agree 5	Agree 4	Neutral 3	Disagree 2	Strongly Disagree 1
Long-Term Vision 1. Firm believes that the policy, administration and set targets clear for the future will help be able to see a direction in operation to succeed as well.	5	4	3	2	1

Section 5 Opinion on the influence of internal factors on strategic quality management costing of ISO 9000 manufacturing firms in Thailand (continued)

Internal Environmental Operation	Opinion Levels				
	Strongly Agree 5	Agree 4	Neutral 3	Disagree 2	Strongly Disagree 1
Long-Term Vision 2. Firm emphasizes that determining a measure of the success of the firm both in the short and long-term concrete which allows it to assess the performance even better.	5	4	3	2	1
3. Firm realizes that investing in human resource development is concrete and continuous helps the administration succeeds as well as in the present and future.	5	4	3	2	1
4. Firm supports invest in technology and new innovations continued help create a competitiveness in the present and future even better.	5	4	3	2	1
Best Accounting System 5. Firm believes that the best accounting system helps make administration more effectively.	5	4	3	2	1
6. Firm emphasizes that modern technology applied in the accounting system is concrete helps offer accounting information has quality better.	5	4	3	2	1
7. Focuses on to have improvements the accounting system is continued helps achieve performance goals, consistent with objectives and goals of the organization as well.	5	4	3	2	1
8. Firm encourages link accounting system with administration systems of the organization together with a concrete which will be help achieve operations goals.	5	4	3	2	1

Section 5 Opinion on the influence of internal factors on strategic quality management costing of ISO 9000 manufacturing firms in Thailand (continued)

Internal Environmental Operation	Opinion Levels				
	Strongly Agree 5	Agree 4	Neutral 3	Disagree 2	Strongly Disagree 1
Proactive Accounting Practice 9. Firm believes that the accounting practices take into account to operate future will be help accounting practices contributes efficiency and the most utilization.	5	4	3	2	1
10. Firm supports on analysis the potential and ability of markets, customers, competitors is systematic which helps implementation of accounting practices can supports operating to maximize efficiency.	5	4	3	2	1
11. Firm focuses on to offering of accounting information that reflects the situation the organization's operations in the present and future will help the administration achieve the good always.	5	4	3	2	1
12. Firm focuses on the accounting practices that realize to the survival and sustainability of the firm both present and future which will be help the accounting practices contributes the most utilization for the firm.	5	4	3	2	1
Accounting Learning 13. Firm believes that the better accounting learning will help administration accounting to achieve the maximize efficiency.	5	4	3	2	1
14. Firm supports on staff training related to the accounting continues which helps achieve the maximize efficiency.	5	4	3	2	1

Section 5 Opinion on the influence of internal factors on strategic quality management costing of ISO 9000 manufacturing firms in Thailand (continued)

Internal Environmental Operation	Opinion Levels				
	Strongly Agree 5	Agree 4	Neutral 3	Disagree 2	Strongly Disagree 1
Accounting Learning 15. Firm focuses on the work experience integration in accounting practices used as a guideline task current accounting will help to achieve operations the ultimate goal.	5	4	3	2	1
16. Firm supports to knowledge management related to the accounting in a systematic via apply the information technology involved which will help to have better information in support to achieve the ultimate goal.	5	4	3	2	1

Section 6 Opinion on the influence of external factors on strategic quality management costing of ISO 9000 manufacturing firms in Thailand

External Environmental Operation	Opinion Levels				
	Strongly Agree 5	Agree 4	Neutral 3	Disagree 2	Strongly Disagree 1
Market Competition 1. At present, new competitors has entering the business regularly makes to firms must adapt and prepare for the competition situation that occurs all the time.	5	4	3	2	1
2. Environment associated with business operations have more complex makes to firms must seek ways to manage risk to achieve maximize efficiency.	5	4	3	2	1

Section 6 Opinion on the influence of external factors on strategic quality management costing of ISO 9000 manufacturing firms in Thailand (continued)

External Environmental Operation	Opinion Levels				
	Strongly Agree 5	Agree 4	Neutral 3	Disagree 2	Strongly Disagree 1
Market Competition 3. Market has the demand of product and service is more quality makes to firms must improve and develop the organization continued.	5	4	3	2	1
4. At present, technologically advanced and rapid changes to firms have to invest in technology to maximize efficiency of the organization always timely.	5	4	3	2	1
Stakeholder Requirements 5. Public has expectations for the firms operation has higher continued affects firms must focus on operations to achieve maximum efficiency and effectiveness.	5	4	3	2	1
6. Customer has the demand of product and service is higher quality makes to firms must production improve and service is continued.	5	4	3	2	1
7. Rules and regulations were more stringent makes to firms must focus on education which case can be applied to achieve maximize efficiency.	5	4	3	2	1
8. Society has the demand a responsibility in business's operation has increased continues affects to firms must focus in operation to meet the demand these as well.	5	4	3	2	1

Section 7 Recommendations and suggestions for strategic quality management costing and firm sustainability of ISO 9000 manufacturing firms in Thailand

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Thank you for devoting your valuable time to answer all of the questions.

APPENDIX G

Cover Letters and Questionnaire: Thai Version

แบบสอบถามเพื่อการวิจัย

เรื่อง การบัญชีต้นทุนเพื่อการจัดการคุณภาพเชิงกลยุทธ์และความยั่งยืนของกิจการ

: การตรวจสอบเชิงประจักษ์ของธุรกิจการผลิตที่ได้รับการรับรอง ISO 9000 ในประเทศไทย

<u>คำชี้แจง :</u>

โครงการวิจัยนี้มีวัตถุประสงค์เพื่อศึกษาวิจัยเรื่อง **"การบัญชีต้นทุนเพื่อการจัดการคุณภาพเชิงกลยุทธ์และความยั่งยืนของกิจการ:การตรวจสอบเชิงประจักษ์ของธุรกิจการผลิตที่ได้รับการรับรอง ISO 9000 ในประเทศไทย"** เพื่อใช้เป็นข้อมูลในการจัดทำวิทยานิพนธ์ในระดับปริญญาเอกของผู้วิจัย ในหลักสูตร ปรัชญาดุษฎีบัณฑิต สาขาวิชาการบัญชี คณะการบัญชีและการจัดการมหาวิทยาลัยมหาสารคาม

ข้าพเจ้าใคร่ขอความอนุเคราะห์จากท่านผู้ตอบแบบสอบถาม ได้โปรดตอบแบบสอบถามชุดนี้ โดยรายละเอียดของแบบสอบถามประกอบด้วยส่วนคำถาม 7 ตอน ดังนี้

ตอนที่ 1 ข้อมูลทั่วไปของผู้บริหารฝ่ายบัญชีธุรกิจการผลิตที่ได้รับการรับรอง ISO 9000 ในประเทศไทย

ตอนที่ 2 ข้อมูลทั่วไปของธุรกิจการผลิตที่ได้รับการรับรอง ISO 9000 ในประเทศไทย

ตอนที่ 3 ความคิดเห็นเกี่ยวกับการบัญชีต้นทุนเพื่อการจัดการคุณภาพของธุรกิจการผลิตที่ได้รับการรับรอง ISO 9000 ในประเทศไทย

ตอนที่ 4 ความคิดเห็นเกี่ยวกับผลการการดำเนินงานของธุรกิจการผลิตที่ได้รับการรับรอง ISO 9000 ในประเทศไทย

ตอนที่ 5 ความคิดเห็นเกี่ยวกับปัจจัยภายในที่ส่งผลต่อการบัญชีต้นทุนเพื่อการจัดการคุณภาพเชิงกลยุทธ์ของธุรกิจการผลิตที่ได้รับการรับรอง ISO 9000 ในประเทศไทย

ตอนที่ 6 ความคิดเห็นเกี่ยวกับปัจจัยภายนอกที่ส่งผลต่อการบัญชีต้นทุนเพื่อการจัดการคุณภาพเชิงกลยุทธ์ของธุรกิจการผลิตที่ได้รับการรับรอง ISO 9000 ในประเทศไทย

ตอนที่ 7 ความคิดเห็นและข้อเสนอแนะอื่น ๆ เพิ่มเติมเกี่ยวกับการบัญชีต้นทุนเพื่อการจัดการคุณภาพเชิงกลยุทธ์ของธุรกิจการผลิตที่ได้รับการรับรอง ISO 9000 ในประเทศไทย

ข้าพเจ้าขอขอบพระคุณที่ท่านได้เสียสละเวลาตอบแบบสอบถามชุดนี้ทุกข้ออย่างถูกต้องครบถ้วน คำตอบของท่านจะถูกเก็บรักษาเป็นความลับ และจะไม่มีการใช้ข้อมูลใด ๆ ที่เปิดเผยเกี่ยวกับตัวท่านในการรายงานข้อมูล รวมทั้งจะไม่มีการร่วมใช้ข้อมูลดังกล่าวกับบุคคลภายนอกอื่นใดโดยไม่ได้รับอนุญาตจากท่าน หากท่านต้องการรายงานสรุปผลการวิจัย

โปรดระบุ E-mail Address ของท่าน หรือแนบนามบัตรของท่านมากับแบบสอบถามชุดนี้ ท่านต้องการรายงานสรุปผลการวิจัยหรือไม่ ( ) ต้องการ E - mail _____ ( ) ไม่ต้องการ

อนึ่ง หากท่านมีข้อสงสัยประการใดเกี่ยวกับแบบสอบถาม โปรดติดต่อ นายอนุชา พุฒิกูลสาคร โทรศัพท์ 043-754-333 โทรศัพท์เคลื่อนที่ 094-541-8465 หรือ E – mail :putekunsakon@hotmail.com

(นายอนุชา พุฒิกูลสาคร)

นิสิตระดับปริญญาเอก สาขาวิชาการบัญชี

คณะการบัญชีและการจัดการมหาวิทยาลัยมหาสารคาม

ตอนที่ 1 ข้อมูลทั่วไปของผู้บริหารฝ่ายบัญชีธุรกิจการผลิตที่ได้รับการรับรอง ISO 9000 ในประเทศไทย

1. เพศ

☐ ชาย ☐ หญิง

2. อายุ

☐ น้อยกว่า 30 ปี ☐ 30 - 40 ปี

☐ 41 - 50 ปี ☐ มากกว่า 50 ปี

3. สถานภาพ

☐ โสด ☐ สมรส

☐ หม้าย/หย่าร้าง

4. ระดับการศึกษา

☐ ปริญญาตรีหรือต่ำกว่า ☐ สูงกว่าปริญญาตรี

5. ประสบการณ์ในการทำงาน

☐ น้อยกว่า 5 ปี ☐ 5 - 10 ปี

☐ 11 - 15 ปี ☐ มากกว่า 15 ปี

6. รายได้เฉลี่ยต่อเดือน

☐ ต่ำกว่า 75,000 บาท ☐ 75,000 - 100,000 บาท

☐ 100,001 - 125,000 บาท ☐ มากกว่า 125,000 บาท

7. ตำแหน่งงานในปัจจุบัน

☐ ผู้อำนวยการฝ่ายบัญชี ☐ ผู้จัดการฝ่ายบัญชี

☐ อื่น ๆ (โปรดระบุ).....

ตอนที่ 2 ข้อมูลทั่วไปของธุรกิจการผลิตที่ได้รับการรับรอง ISO 9000 ในประเทศไทย

1. รูปแบบธุรกิจ

☐ บริษัทจำกัด ☐ ห้างหุ้นส่วน

2. ประเภทอุตสาหกรรม

☐ การผลิต แปรรูปและการถนอมอาหาร ผลิตภัณฑ์ที่ได้จากนม

☐ ผลิตภัณฑ์ได้จากการโม่ สี สตาร์ชและอาหารสำเร็จรูป

☐ ผลิตภัณฑ์อาหารอื่น ☐ เครื่องดื่ม

2. ประเภทอุตสาหกรรม (ต่อ)

- ☐ ยาสูบ
- ☐ ผลิตภัณฑ์หนัง/รองเท้า
- ☐ กระดาษและผลิตภัณฑ์กระดาษ
- ☐ ผลิตภัณฑ์ปิโตรเลียม
- ☐ ผลิตภัณฑ์เคมีภัณฑ์อื่น ๆ
- ☐ ผลิตภัณฑ์ยาง
- ☐ แก้วและผลิตภัณฑ์จากแก้ว
- ☐ ปูนซีเมนต์/คอนกรีต/ใยหิน
- ☐ เหล็ก/เหล็กกล้า
- ☐ การหล่อโลหะ
- ☐ เครื่องจักรกลและอุปกรณ์
- ☐ การผลิต/จ่ายก๊าซ
- ☐ สิ่งทอ
- ☐ ไม้และผลิตภัณฑ์ไม้
- ☐ สิ่งพิมพ์และการพิมพ์
- ☐ สารเคมีขั้นมูลฐาน
- ☐ เส้นใยประดิษฐ์
- ผลิตภัณฑ์พลาสติก
- ☐ ผลิตภัณฑ์เซรามิกส์
- ☐ การตัดแต่งหิน
- ☐ โลหะมีค่า
- ☐ ผลิตภัณฑ์โลหะ
- ☐ การผลิต/จ่ายไฟฟ้า
- ☐ การผลิตอื่นๆ (ระบุ).....

3. ทุนในการดำเนินงาน

- ☐ ต่ำกว่า 25,000,000 บาท
- ☐ 25,000,000 - 50,000,000 บาท
- ☐ 50,000,001-75,000,000 บาท
- ☐ มากกว่า 75,000,000 บาท

4. มูลค่าสินทรัพย์รวมของธุรกิจ

- ☐ ต่ำกว่า 50,000,000 บาท
- ☐ 50,000,000 – 100,000,000 บาท
- ☐ 100,000,001-150,000,000 บาท
- ☐ มากกว่า 150,000,000 บาท

5. จำนวนพนักงานในปัจจุบัน

- ☐ น้อยกว่า 50 คน
- ☐ 50 – 100 คน
- ☐ 101 - 150 คน
- ☐ มากกว่า 150 คน

6. ระยะเวลาในการดำเนินธุรกิจ

- ☐ น้อยกว่า 5 ปี
- ☐ 5-10 ปี
- ☐ 10-15 ปี
- ☐ มากกว่า 15 ปี

7. ระยะเวลาที่ธุรกิจได้รับการรับรอง ISO 9000

- ☐ น้อยกว่า 5 ปี
- ☐ 5-7 ปี
- ☐ 8-10 ปี
- ☐ มากกว่า 10 ปี

8. รายได้เฉลี่ยต่อปีของกิจการ

- ☐ ต่ำกว่า 10,000,000 บาท
- ☐ 10,000,000 – 30,000,000 บาท
- ☐ 30,000,001-50,000,000 บาท
- ☐ มากกว่า 50,000,000 บาท

ตอนที่ 3 ความคิดเห็นเกี่ยวกับการบัญชีต้นทุนเพื่อการจัดการคุณภาพเชิงกลยุทธ์ของธุรกิจการผลิตที่ได้รับการรับรอง ISO 9000 ในประเทศไทย

การบัญชีต้นทุนเพื่อการจัดการคุณภาพเชิงกลยุทธ์ (Strategic Quality Management Costing)	ระดับความคิดเห็น				
	มากที่สุด 5	มาก 4	ปานกลาง 3	น้อย 2	น้อยที่สุด 1
ค่าใช้จ่ายในการพัฒนาคุณลักษณะของสินค้า (Product function development expense) 1. กิจการเชื่อมั่นว่าการมีระบบการพัฒนาคุณลักษณะสินค้าที่ดี จะช่วยทำให้สินค้าของกิจการมีคุณภาพเพิ่มขึ้น	5	4	3	2	1
2. กิจการให้ความสำคัญกับการจัดสรรงบประมาณเพื่อพัฒนาคุณลักษณะสินค้าให้เป็นไปตามมาตรฐานต่าง ๆ อย่างเป็นระบบ ส่งผลให้สินค้าของกิจการเป็นที่ยอมรับของผู้บริโภคเพิ่มขึ้น	5	4	3	2	1
3. กิจการมุ่งเน้นให้มีการลงทุนในการนำเทคโนโลยีเข้ามาประยุกต์ใช้ในการพัฒนาคุณลักษณะสินค้าให้ตรงกับความต้องการของผู้บริโภคอยู่เสมอ ช่วยให้สามารถขยายส่วนแบ่งตลาดได้เพิ่มขึ้น	5	4	3	2	1
4. กิจการสนับสนุนให้บุคลากรเข้าร่วมฝึกอบรมในการออกแบบ และพัฒนาคุณลักษณะสินค้าให้มีความโดดเด่น ช่วยให้สามารถตอบสนองต่อความต้องการของตลาดได้ดียิ่งขึ้น	5	4	3	2	1
ต้นทุนการเรียนรู้ลูกค้าเชิงพลวัต (Dynamic customer learning cost) 5. กิจการเชื่อมั่นว่าการเรียนรู้ลูกค้าที่ดี จะช่วยให้การจัดการคุณภาพมีประสิทธิภาพมากขึ้น	5	4	3	2	1
6. กิจการส่งเสริมให้บุคลากรได้เข้าร่วมฝึกอบรมเกี่ยวกับการบริหารลูกค้าสมัยใหม่อย่างต่อเนื่อง ซึ่งจะช่วยให้บรรลุเป้าหมายการดำเนินงานได้ดียิ่งขึ้น	5	4	3	2	1
7. กิจการมุ่งเน้นให้มีการลงทุนพัฒนาระบบฐานข้อมูลลูกค้าอย่างเป็นรูปธรรม จะช่วยให้ติดตามและประเมินความต้องการของลูกค้าเป็นไปอย่างรวดเร็ว ถูกต้อง และมีประสิทธิภาพยิ่งขึ้น	5	4	3	2	1
8. กิจการสนับสนุนให้มีการสื่อสารกับลูกค้าอย่างสม่ำเสมอ จะช่วยให้สามารถนำเสนอสินค้าและบริการได้ตรงกับความต้องการของลูกค้ามากยิ่งขึ้น	5	4	3	2	1
รายจ่ายเกี่ยวกับการป้องกันความเสี่ยงที่เกิดจากข้อบกพร่อง (Defect Prevention Risk Expenditure) 9. กิจการเชื่อมั่นว่าการมีระบบการป้องกันความเสี่ยงที่เกิดจากข้อบกพร่องที่ดี จะช่วยทำให้การบริหารงานมีประสิทธิภาพยิ่งขึ้น	5	4	3	2	1
10. กิจการให้ความสำคัญกับการลงทุนเพื่อพัฒนาระบบที่เกี่ยวข้องกับการป้องกันความเสี่ยงอย่างเป็นรูปธรรม ช่วยให้สามารถดำเนินงานได้อย่างมีประสิทธิผลมากขึ้น	5	4	3	2	1

ตอนที่ 3 ความคิดเห็นเกี่ยวกับการบัญชีต้นทุนเพื่อการจัดการคุณภาพเชิงกลยุทธ์ของธุรกิจการผลิตที่ได้รับการรับรอง ISO 9000 ในประเทศไทย (ต่อ)

การบัญชีต้นทุนเพื่อการจัดการคุณภาพเชิงกลยุทธ์ (Strategic Quality Management Costing)	ระดับความคิดเห็น				
	มากที่สุด 5	มาก 4	ปานกลาง 3	น้อย 2	น้อยที่สุด 1
รายจ่ายเกี่ยวกับการป้องกันความเสี่ยงที่เกิดจากข้อบกพร่อง (Defect Prevention Risk Expenditure) 11. กิจการมุ่งเน้นให้มีการจำแนกค่าใช้จ่ายที่เกี่ยวข้องกับการป้องกันความเสี่ยงที่เกิดจากข้อบกพร่องอย่างเป็นระบบ ซึ่งช่วยเพิ่มประสิทธิภาพการดำเนินงานของกิจการให้มากยิ่งขึ้น	5	4	3	2	1
12. กิจการมุ่งมั่นให้มีการรายงานความเสียหายที่เกิดจากข้อบกพร่องและเสนอแนวทางแก้ไขอย่างสม่ำเสมอ ช่วยให้สามารถประเมินและสร้างมาตรฐานการป้องกันได้ดียิ่งขึ้น	5	4	3	2	1
การลงทุนในการปรับปรุงองค์กรอย่างต่อเนื่อง (Continuous Organizational Improvement Investment) 13. กิจการเชื่อมั่นว่าการพัฒนาปรับปรุงองค์กรอย่างต่อเนื่องจะช่วยให้การบริหารงานมีประสิทธิภาพยิ่งขึ้น	5	4	3	2	1
14. กิจการมุ่งเน้นให้มีการจัดสรรงบประมาณเพื่อการพัฒนาปรับปรุงองค์กรทั้งระบบอย่างเป็นรูปธรรม ส่งผลให้สามารถกระจายทรัพยากรที่มีอยู่ได้อย่างเพียงพอและเหมาะสมมากยิ่งขึ้น	5	4	3	2	1
15. กิจการมุ่งมั่นให้มีการจำแนกค่าใช้จ่ายในการพัฒนาปรับปรุงองค์กรทุก ๆ ด้านอย่างเป็นรูปธรรม ช่วยให้สามารถติดตามและสั่งการไปยังหน่วยงานที่รับผิดชอบได้อย่างมีประสิทธิผลมากขึ้น	5	4	3	2	1
16. กิจการสนับสนุนให้มีการรายงานเกี่ยวกับต้นทุนและประโยชน์ที่ได้รับจากการลงทุนปรับปรุงองค์กรต่อเนื่อง ซึ่งช่วยให้เกิดความคุ้มค่าและมีประโยชน์ในการดำเนินงานสูงสุด	5	4	3	2	1
งบประมาณในการสร้างสรรค์ห่วงโซ่คุณค่า (Value Chain Creativity Budget) 17. กิจการเชื่อมั่นว่าการมีการวิเคราะห์กิจกรรมที่เพิ่มมูลค่าให้กับองค์กรอย่างเป็นระบบ จะช่วยให้การบริหารงานบรรลุเป้าหมายได้ดียิ่งขึ้น	5	4	3	2	1
18. กิจการให้ความสำคัญกับการจัดสรรงบประมาณในการออกแบบและปรับปรุงกระบวนการทำงานใหม่ ๆ ทั้งองค์กร จะช่วยเพิ่มขีดความสามารถในการดำเนินงานขององค์กรให้มากยิ่งขึ้น	5	4	3	2	1
19. กิจการสนับสนุนให้มีการให้รางวัลแก่บุคลากรและหน่วยงานภายในที่มีการเสนอแนวคิดหรือแนวทางของการเพิ่มประสิทธิภาพและปรับปรุงระบบการดำเนินขององค์กรอย่างต่อเนื่อง จะช่วยให้ประสบความสำเร็จได้ดียิ่งขึ้น	5	4	3	2	1

ตอนที่ 3 ความคิดเห็นเกี่ยวกับการบัญชีต้นทุนเพื่อการจัดการคุณภาพเชิงกลยุทธ์ของธุรกิจการผลิตที่ได้รับการรับรอง ISO 9000 ในประเทศไทย (ต่อ)

การบัญชีต้นทุนเพื่อการจัดการคุณภาพเชิงกลยุทธ์ (Strategic Quality Management Costing)	ระดับความคิดเห็น				
	มากที่สุด 5	มาก 4	ปานกลาง 3	น้อย 2	น้อยที่สุด 1
งบประมาณในการสร้างสรรค์ห่วงโซ่คุณค่า (Value Chain Creativity Budget) 20. กิจการมุ่งเน้นให้มีการรายงานต้นทุนและค่าใช้จ่ายที่เกิดจากการสร้างสรรค์งานในแต่ละส่วนอย่างสม่ำเสมอจะช่วยการบริหารงานเกิดประโยชน์สูงสุด	5	4	3	2	1

ตอนที่ 4 ความคิดเห็นเกี่ยวกับผลการดำเนินงานของธุรกิจการผลิตที่ได้รับการรับรอง ISO 9000 ในประเทศไทย

ผลการดำเนินงาน	ระดับความคิดเห็น				
	มากที่สุด 5	มาก 4	ปานกลาง 3	น้อย 2	น้อยที่สุด 1
การยอมรับของลูกค้า (Customer Acceptance) 1. กิจการได้รับการยอมรับจากลูกค้าอย่างต่อเนื่องตั้งแต่อดีตจนถึงปัจจุบัน	5	4	3	2	1
2. กิจการสามารถรักษาฐานลูกค้ารายเก่าได้อย่างดี และมีลูกค้ารายใหม่เกิดขึ้นอย่างต่อเนื่อง	5	4	3	2	1
3. กิจการได้รับการกล่าวถึงจากลูกค้าอย่างต่อเนื่องว่าเป็นกิจการ ที่ผลิตสินค้าได้ตรงตามความต้องการและเสนอราคาที่เหมาะสม	5	4	3	2	1
4. กิจการมีลูกค้าที่ยังยึดติดกับสินค้าและบริการของกิจการไม่เปลี่ยนแปลง แม้ว่าตลาดจะมีผลิตภัณฑ์ทดแทนหรือรูปแบบบริการใหม่ๆ เกิดขึ้นก็ตาม	5	4	3	2	1
ความเป็นเลิศขององค์กร (Organizational Excellence) 5. กิจการมีการบริหารงานที่เป็นไปตามมาตรฐานต่าง ๆ ที่เกี่ยวข้องอยู่เสมอ	5	4	3	2	1
6. กิจการมีเอกลักษณ์และลักษณะวิธีการดำเนินงานเฉพาะตัวที่โดดเด่นอย่างชัดเจน	5	4	3	2	1
7. กิจการมีความสามารถกำหนดตำแหน่งของสินค้าและบริการในตลาดได้อย่างชัดเจน	5	4	3	2	1
8. กิจการมีระบบการบริหารทรัพยากรที่มีประสิทธิภาพและประสิทธิผลสูงสุด	5	4	3	2	1

ตอนที่ 4 ความคิดเห็นเกี่ยวกับผลการดำเนินงานของธุรกิจการผลิตที่ได้รับการรับรอง ISO 9000 ในประเทศไทย (ต่อ)

ผลการดำเนินงาน	ระดับความคิดเห็น				
	มากที่สุด 5	มาก 4	ปานกลาง 3	น้อย 2	น้อยที่สุด 1
ความเชื่อถือของตลาด (Market Reliability) 9. เมื่อกล่าวถึงกิจการที่มีการบริหารงานอย่างมีคุณภาพ และมีประสิทธิภาพสูงสุด กิจการจะเป็นอีกกิจการหนึ่ง ที่ได้รับการระลึกถึงจากตลาดและผู้มีส่วนเกี่ยวข้องอยู่เสมอ	5	4	3	2	1
10. กิจการได้รับความร่วมมือและสนับสนุนในการดำเนินกิจกรรม ต่าง ๆ จากหน่วยงานภายนอกอยู่เสมอ	5	4	3	2	1
11. กิจการมีได้รับความเชื่อถือและศรัทธาเกี่ยวกับความรับผิดชอบต่อสังคม จากชุมชนและสาธารณชนด้วยดีเสมอมา	5	4	3	2	1
12. กิจการได้รับความไว้วางใจจากนักลงทุนทั้งภายในประเทศ และต่างประเทศเกี่ยวกับศักยภาพขององค์กรในการบริหารงาน แบบมืออาชีพ	5	4	3	2	1
การบรรลุเป้าหมาย (Goal Achievement) 13. กิจการสามารถบรรลุวัตถุประสงค์และภารกิจต่าง ๆ ขององค์กรได้เป็นอย่างดี	5	4	3	2	1
14. กิจการสามารถสร้างผลตอบแทนแก่ผู้มีส่วนได้เสียได้ ตามเป้าหมายที่วางไว้	5	4	3	2	1
15. กิจการสามารถเพิ่มผลผลิตในการดำเนินงานทั้งที่เป็นตัวเงิน และไม่เป็นตัวเงินได้ตามความคาดหวัง	5	4	3	2	1
16. กิจการมีอัตราการเติบโตของกำไรและเพิ่มส่วนแบ่งทางการตลาด ได้ตามเป้าหมาย	5	4	3	2	1
ความยั่งยืนของกิจการ (Firm Sustainability) 17. กิจการสามารถสร้างองค์ความรู้ นวัตกรรมและสินทรัพย์ ที่ก่อให้เกิดประโยชน์สูงสุดแก่องค์กรอย่างต่อเนื่อง	5	4	3	2	1
18. กิจการมั่นใจว่าจะนำพาธุรกิจให้อยู่รอดในธุรกิจได้ แม้ต้องเผชิญ กับภาวะวิกฤติทางเศรษฐกิจและการแข่งขันที่รุนแรงในอนาคต	5	4	3	2	1
19. กิจการมีฐานะทางการเงินและผลการดำเนินงานที่มีเสถียรภาพและความ มั่นคงสามารถที่จะดำเนินธุรกิจต่อไปได้ในระยะยาว	5	4	3	2	1
20. กิจการมีวัฒนธรรมองค์กรที่เน้นความร่วมมือจากสมาชิก ทุกคนในองค์กรสำหรับการสร้างธุรกิจให้มีความมั่นคง และเจริญเติบโตทั้งในปัจจุบันและอนาคต	5	4	3	2	1

ตอนที่ 5 ความคิดเห็นเกี่ยวกับปัจจัยภายในที่มีผลต่อการบัญชีต้นทุนเพื่อการจัดการคุณภาพเชิงกลยุทธ์ของธุรกิจการผลิตที่ได้รับการรับรอง ISO 9000 ในประเทศไทย

ปัจจัยภายในที่มีผลต่อการบัญชีต้นทุนเพื่อการจัดการคุณภาพเชิงกลยุทธ์	ระดับความคิดเห็น				
	มากที่สุด 5	มาก 4	ปานกลาง 3	น้อย 2	น้อยที่สุด 1
วิสัยทัศน์ระยะยาว (Long-Term Vision) 1. กิจการเชื่อมั่นว่าการกำหนดนโยบายและการบริหารงานและวางเป้าหมายในอนาคตที่ชัดเจน จะช่วยให้สามารถมองเห็นทิศทางในการดำเนินงานไปสู่ความสำเร็จได้เป็นอย่างดี	5	4	3	2	1
2. กิจการให้ความสำคัญกับการกำหนดตัวชี้วัดความสำเร็จของกิจการทั้งในระยะสั้นและระยะยาวอย่างเป็นรูปธรรม ซึ่งช่วยให้สามารถประเมินผลการดำเนินงานได้ดียิ่งขึ้น	5	4	3	2	1
3. กิจการตระหนักเสมอว่าการลงทุนพัฒนาบุคลากรอย่างเป็นรูปธรรม และต่อเนื่อง จะช่วยให้การบริหารงานประสบความสำเร็จได้เป็นอย่างดีทั้งในปัจจุบันและอนาคต	5	4	3	2	1
4. กิจการสนับสนุนให้มีการวางแผนลงทุนทางเทคโนโลยีและนวัตกรรมใหม่ ๆ อย่างต่อเนื่อง จะช่วยให้สามารถสร้างศักยภาพทางการแข่งขันทั้งในปัจจุบันและอนาคตได้ดียิ่งขึ้น	5	4	3	2	1
ระบบบัญชีที่ดีที่สุด (Best Accounting System) 5. กิจการเชื่อมั่นว่าระบบบัญชีที่ดี ช่วยทำให้สามารถบริหารงานได้อย่างมีประสิทธิภาพมากยิ่งขึ้น	5	4	3	2	1
6. กิจการให้ความสำคัญกับการนำเทคโนโลยีที่ทันสมัยมาประยุกต์ ใช้ในระบบบัญชีอย่างเป็นรูปธรรม ช่วยให้สามารถนำเสนอข้อมูลทางการบัญชีได้อย่างมีคุณภาพมากยิ่งขึ้น	5	4	3	2	1
7. กิจการมุ่งเน้นให้มีการปรับปรุงพัฒนาระบบบัญชีอย่างต่อเนื่อง ซึ่งจะช่วยให้การปฏิบัติงานบรรลุเป้าหมายและสอดคล้องกับวัตถุประสงค์และเป้าหมายขององค์กรได้เป็นอย่างดี	5	4	3	2	1
8. กิจการส่งเสริมให้มีการเชื่อมโยงระบบบัญชีกับระบบการบริหารงานขององค์กรเข้าด้วยกันอย่างเป็นรูปธรรม ซึ่งจะช่วยให้การดำเนินงานบรรลุความสำเร็จตามเป้าหมาย	5	4	3	2	1
การปฏิบัติงานบัญชีเชิงรุก (Proactive Accounting Practice) 9. กิจการเชื่อมั่นว่าการมีการปฏิบัติงานทางการบัญชีที่คำนึงถึงการดำเนินงานในอนาคต จะช่วยให้การปฏิบัติงานทางการบัญชีเกิดประสิทธิภาพและประโยชน์สูงสุด	5	4	3	2	1
10. กิจการสนับสนุนให้มีการวิเคราะห์ศักยภาพและความสามารถของตลาด ลูกค้าและคู่แข่งขันอย่างเป็นระบบ ซึ่งจะช่วยให้การดำเนินงานทางการบัญชีสามารถสนับสนุนการดำเนินงานได้อย่างมีประสิทธิภาพสูงสุด	5	4	3	2	1

ตอนที่ 5 ความคิดเห็นเกี่ยวกับปัจจัยภายในที่มีผลต่อการบัญชีต้นทุนเพื่อการจัดการคุณภาพเชิงกลยุทธ์ของธุรกิจการผลิตที่ได้รับการรับรอง ISO 9000 ในประเทศไทย (ต่อ)

ปัจจัยภายในที่มีผลต่อการบัญชีต้นทุน เพื่อการจัดการคุณภาพเชิงกลยุทธ์	ระดับความคิดเห็น				
	มากที่สุด 5	มาก 4	ปานกลาง 3	น้อย 2	น้อยที่สุด 1
การปฏิบัติงานบัญชีเชิงรุก (Proactive Accounting Practice) 11. กิจการมุ่งเน้นให้มีการนำเสนอข้อมูลทางการบัญชีที่สะท้อนให้เห็นถึงสภาพการณ์การดำเนินงานขององค์กรทั้งในปัจจุบันและอนาคต ซึ่งจะช่วยให้การบริหารงานบรรลุเป้าหมายด้วยดีเสมอมา	5	4	3	2	1
12. กิจการมุ่งเน้นให้มีการปฏิบัติงานทางการบัญชีที่ตระหนักถึงความอยู่รอดและความยั่งยืนขององค์กรทั้งในปัจจุบันและอนาคต ซึ่งจะช่วยให้การปฏิบัติงานทางการบัญชีเกิดประโยชน์สูงสุดแก่องค์กร	5	4	3	2	1
การเรียนรู้ทางการบัญชี (Accounting Learning) 13. กิจการเชื่อมั่นว่าการมีการเรียนรู้ทางการบัญชีที่ดีจะช่วยให้การบริหารงานทางการบัญชีเกิดประสิทธิภาพสูงสุด	5	4	3	2	1
14. กิจการสนับสนุนให้บุคลากรเข้าร่วมฝึกอบรมที่เกี่ยวข้องกับการบัญชีอย่างต่อเนื่อง ซึ่งจะช่วยให้การปฏิบัติงานเกิดประสิทธิภาพสูงสุด	5	4	3	2	1
15. กิจการมุ่งเน้นให้มีการบูรณาการประสบการณ์การปฏิบัติงานทางการบัญชีในอดีต มาใช้เป็นแนวทางในการปฏิบัติงานบัญชีปัจจุบันจะช่วยให้การดำเนินงานบรรลุเป้าหมายสูงสุด	5	4	3	2	1
16. กิจการสนับสนุนให้มีการจัดการความรู้ทางการบัญชีอย่างเป็นระบบ ผ่านการประยุกต์ใช้เทคโนโลยีสารสนเทศที่เกี่ยวข้อง ซึ่งจะช่วยให้มีข้อมูลที่ดีในการสนับสนุนการดำเนินงานให้บรรลุเป้าหมายสูงสุด	5	4	3	2	1

ตอนที่ 6 ความคิดเห็นเกี่ยวกับปัจจัยภายนอกที่มีผลต่อการบัญชีต้นทุนเพื่อการจัดการคุณภาพของธุรกิจการผลิตที่ได้รับการรับรอง ISO 9000 ในประเทศไทย

ปัจจัยภายนอกที่มีผลต่อการบัญชีต้นทุน เพื่อการจัดการคุณภาพเชิงกลยุทธ์	ระดับความคิดเห็น				
	มากที่สุด 5	มาก 4	ปานกลาง 3	น้อย 2	น้อยที่สุด 1
การแข่งขันทางการตลาด (Market Competition) 1. ปัจจุบันคู่แข่งขันรายใหม่ๆ ได้เข้าสู่ธุรกิจอยู่เสมอ ทำให้กิจการต่างๆ ต้องปรับตัวและเตรียมความพร้อมต่อสถานการณ์การแข่งขันที่เกิดขึ้นตลอดเวลา	5	4	3	2	1
2. สภาพแวดล้อมที่เกี่ยวข้องกับการดำเนินธุรกิจมีความซับซ้อนมากขึ้น ทำให้กิจการต่างๆ ต้องแสวงหาวิธีการจัดการความเสี่ยงเพื่อให้เกิดประสิทธิภาพสูงสุด	5	4	3	2	1

ตอนที่ 6 ความคิดเห็นเกี่ยวกับปัจจัยภายนอกที่มีผลต่อการบัญชีต้นทุนเพื่อการจัดการคุณภาพของธุรกิจการผลิตที่ได้รับการรับรอง ISO 9000 ในประเทศไทย (ต่อ)

ปัจจัยภายนอกที่มีผลต่อการบัญชีต้นทุนเพื่อการจัดการคุณภาพเชิงกลยุทธ์	ระดับความคิดเห็น				
	มากที่สุด 5	มาก 4	ปานกลาง 3	น้อย 2	น้อยที่สุด 1
การแข่งขันทางการตลาด (Market Competition) 3. ตลาดต้องการสินค้าและบริการที่มีคุณภาพมากยิ่งขึ้น ทำให้กิจการต่าง ๆ ต้องปรับปรุงและพัฒนาองค์กรอย่างต่อเนื่อง	5	4	3	2	1
4. ในปัจจุบันเทคโนโลยีมีความก้าวหน้าและเปลี่ยนแปลงอย่างรวดเร็ว ทำให้กิจการต่างๆ มีการลงทุนในประยุกต์ใช้เทคโนโลยีให้เกิดประสิทธิภาพสูงสุดแก่องค์กรอยู่เสมอ	5	4	3	2	1
ข้อเรียกร้องของผู้มีส่วนได้เสีย (Stakeholder Requirement) 5. สาธารณะชนมีความคาดหวังต่อการดำเนินงานของธุรกิจสูงขึ้นอย่างต่อเนื่อง ส่งผลให้กิจการต่าง ๆ ต้องมุ่งเน้นการดำเนินงานเพื่อให้เกิดประสิทธิภาพและประสิทธิผลสูงสุด	5	4	3	2	1
6. ลูกค้ามีความต้องการสินค้าและบริการที่มีคุณภาพสูงขึ้น ส่งผลให้กิจการต่าง ๆ ต้องพัฒนาและปรับปรุงการผลิตสินค้าและบริการอย่างต่อเนื่อง	5	4	3	2	1
7. กฎระเบียบและข้อบังคับต่าง ๆ เข้มงวดมากยิ่งขึ้น ทำให้กิจการต่าง ๆ ต้องมุ่งเน้นในการศึกษา เพื่อให้สามารถประยุกต์ใช้ให้เกิดประสิทธิภาพสูงสุด	5	4	3	2	1
8. สังคมมีความต้องการความรับผิดชอบในการดำเนินงานจากธุรกิจเพิ่มขึ้นอย่างต่อเนื่อง ส่งผลให้กิจการต่าง ๆ ต้องมุ่งเน้นในการดำเนินงานเพื่อตอบสนองความต้องการดังกล่าวได้เป็นอย่างดี	5	4	3	2	1

ตอนที่ 7 ความคิดเห็นและข้อเสนอแนะอื่น ๆ เพิ่มเติมเกี่ยวกับการบัญชีต้นทุนเพื่อการจัดการคุณภาพเชิงกลยุทธ์ของธุรกิจการผลิตที่ได้รับการรับรอง ISO 9000 ในประเทศไทย

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(ขอขอบพระคุณท่านเป็นอย่างสูงที่ได้สละเวลาตอบแบบสอบถาม)

APPENDIX H

Letters to the Experts

บันทึกข้อความ

หน่วยงาน คณะการบัญชีและการจัดการ มหาวิทยาลัยมหาสารคาม โทรศัพท์ 043-754333 ต่อ 3431
ที่ ศธ.0530.10/ **วันที่** 5 มิถุนายน 2559
เรื่อง ขอเรียนเชิญเป็นผู้เชี่ยวชาญตรวจสอบเครื่องมือวิจัย

เรียน ผู้ช่วยศาสตราจารย์ ดร.เกสินี หมื่นไธสง

ด้วย นายอนุชา พุฒิกูลสาคร นิสิตระดับปริญญาเอก หลักสูตรปรัชญาดุษฎีบัณฑิต สาขาวิชาการบัญชี (ปร.ด.) คณะการบัญชีและการจัดการ มหาวิทยาลัยมหาสารคาม กำลังศึกษาวิทยานิพนธ์ เรื่อง "การบัญชีต้นทุนเพื่อการจัดการคุณภาพเชิงกลยุทธ์และความยั่งยืนของกิจการ :การตรวจสอบเชิงประจักษ์ของธุรกิจผลิตที่ได้รับการรับรอง ISO 9000 ในประเทศไทย" ซึ่งเป็นส่วนหนึ่งของการศึกษาตามหลักสูตรปรัชญาดุษฎีบัณฑิต ดังนั้นเพื่อให้การดำเนินการเป็นไปด้วยความเรียบร้อยและบรรลุตามวัตถุประสงค์ คณะการบัญชีและการจัดการ มหาวิทยาลัยมหาสารคาม จึงใคร่ขอความอนุเคราะห์จากท่านเป็นผู้เชี่ยวชาญตรวจสอบเครื่องมือวิจัยและข้อเสนอแนะเพื่อนำข้อมูลที่ได้ไปดำเนินการทำวิทยานิพนธ์ต่อไปตามเอกสารแนบท้าย

จึงเรียนมาเพื่อโปรดพิจารณา

(รองศาสตราจารย์ ดร.ปพนศักษ์ บารมี อุตสาหะวาณิชกิจ)
คณบดีคณะการบัญชีและการจัดการ

บันทึกข้อความ

หน่วยงาน คณะการบัญชีและการจัดการ มหาวิทยาลัยมหาสารคาม โทรศัพท์ 043-754333 ต่อ 3431
ที่ ศธ.0530.10/ **วันที่** 5 มิถุนายน 2559
เรื่อง ขอเรียนเชิญเป็นผู้เชี่ยวชาญตรวจสอบเครื่องมือวิจัย

เรียน รองศาสตราจารย์ ดร.ปพฤกษ์บารมี | อุตสาหะวาณิชกิจ

ด้วย นายอนุชา พุฒิกูลสาคร นิสิตระดับปริญญาเอก หลักสูตรปรัชญาดุษฎีบัณฑิต สาขาวิชาการบัญชี (ปร.ด.) คณะการบัญชีและการจัดการ มหาวิทยาลัยมหาสารคาม กำลังศึกษาวิทยานิพนธ์ เรื่อง "การบัญชีต้นทุนเพื่อการจัดการคุณภาพเชิงกลยุทธ์และความยั่งยืนขององค์การ :การตรวจสอบเชิงประจักษ์ของธุรกิจผลิตที่ได้รับการรับรอง ISO 9000 ในประเทศไทย" ซึ่งเป็นส่วนหนึ่งของการศึกษาตามหลักสูตรปรัชญาดุษฎีบัณฑิต ดังนั้นเพื่อให้การดำเนินการเป็นไปด้วยความเรียบร้อยและบรรลุตามวัตถุประสงค์ คณะการบัญชีและการจัดการ มหาวิทยาลัยมหาสารคาม จึงใคร่ขอความอนุเคราะห์จากท่านเป็นผู้เชี่ยวชาญตรวจสอบเครื่องมือวิจัยและข้อเสนอแนะเพื่อนำข้อมูลที่ได้ไปดำเนินการทำวิทยานิพนธ์ต่อไปตามเอกสารแนบท้าย

จึงเรียนมาเพื่อโปรดพิจารณา

(รองศาสตราจารย์ ดร.การุณย์ ประหุม)
รองคณบดีฝ่ายบัณฑิตศึกษาและวิจัย

(รองศาสตราจารย์ ดร.ปพฤกษ์บารมี อุตสาหะวาณิชกิจ)
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EDUCATION BACKGROUND

1998 Bachelor of Business Administration (Accounting)
North Eastern College, Khonkaen, Thailand

2006 Master of Accountancy
Mahasarakhan University, Mahasarakham, Thailand

2016 Doctor of Philosophy (Accounting)
Mahasarakhan University, Mahasarakham, Thailand.

RESEARCH OUTPUT

Puttikunsakon, Anucha and Ussahawanitchaki, Phapruketbaramee. (2015). "Best internal audit practices and achieving organizational success: an empirical examination of ISO 9000 manufacturing firm in Thailand" The business & Management Review, *International Journal of Strategic Management*, 7(1), 105-124.