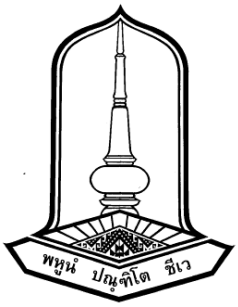

STRATEGIC RENEWAL CAPABILITY AND FIRM SUSTAINABILITY: AN EMPIRICAL INVESTIGATIONOF SOFTWARE BUSINESSES IN THAILAND

WASIN PHETPHONGPHAN

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

April 2017

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April 2017

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ABSTRACT

Globalization and advances in technology are currently forcing businesses around the world to respond to meet ever changing, competitive and unpredictable environments. To survive in this climate of dynamic environmental change, firms need to embrace strategic renewal capability and continuously adapt in order to keep pace with the rapidly-changing economic and technological environment; this is a key to sustainability.

The focus of this research was to investigate the relationship between strategic renewal capability and firm sustainability and its consequences. In this context the antecedents of strategic renewal capability were investigated in so far as they are influenced by competitive turbulence. The dynamic capability theory and contingency theory were utilized to explain the relationship among these variables. This research combined and analyzed elements of dynamic capability theory and contingency theory generated conclusions at both a theoretical and a practical managerial level. At a theoretical level the research conceptualized a comprehensive view of strategic renewal capability as a multi-dimensional construct, and proposed an alternative construct at variance with earlier renewal capability literature.

The target population was 855 software businesses in Thailand drawn from the Software Industry Promotion Agency (SIPA) of Thailand data base as of the 25th of March of 2016. Of the 855 questionnaires sent to the selected respondents, 163 were returned and of these 156 were usable. The data generated by these questionnaires reflecting the reasons, opinions and motivations of industry leaders, and were utilized to generate eighteen testable hypotheses which involved fifteen variables. Data were

analyzed using multiple regression analysis as the main statistical technique to test the relationships between constructs. Furthermore, descriptive analysis, variance inflation factors (VIF's), homoscedasticity, and correlation analysis were employed to test the basic assumptions of regression analysis.

The results reveal that all dimensions of strategic renewal capability have a positive association with organizational survival and firm sustainability. Particularly, operational maintenance focus and organizational innovation enhancement illustrated the positive relationships with goal achievement excellence, stakeholder expectations fulfillment, dynamic corporate competitiveness, organizational survival and firm sustainability. Significantly, this research supports the conclusion that goal achievement excellence and stakeholder expectations fulfillment have a significant and positive effect on dynamic corporate competitiveness. In addition, dynamic corporate competitiveness is positively related to organizational survival and firm sustainability. Likewise, each antecedent has a positive effect on the dimensions of strategic renewal capability. Of significance, resources complementarity illustrated the positive relationships with the dimensions of strategic renewal capability.

The research indicates that competitive turbulence plays a moderating role on the effect of technology growth on business development capability and organizational innovation enhancement. However, competitive turbulence has a significant but negative effect on the relationships among learning utilization, resources complementarity and technology growth and some dimensions of strategic renewal capability

At a practical, managerial level, the research indicates that managers need to focus on a management philosophy that promotes operational maintenance and organizational innovation by supplying sufficient resources and by preserving a forward-looking vision. Moreover, management should recognize the importance of environmental adaptation to enable strategic renewal capability in the formulation of organizational vision. Most importantly managers should assist their employees by ensuring that they have the necessary resources to respond to internal and external environmental challenges. This research suggests that future research might focus on parallel studies involving other industries within Thailand and overseas.

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CHAPTER I

INTRODUCTION

Overview

Globalization and advances in technology are currently forcing businesses around the world to respond to meet to ever changing, competitive and unpredictable environments, if they wish to survive. Many organizations are faced with a dynamic environment due to changes in the economy, society, culture and technology (Schmitt and Klarner, 2015). Moreover, the growth of information and communication technologies have resulted in changes in broader markets from the national to the global level (Yang and Sun, 2012). Such broader market changes have forced organizations to face an increasing number of competitors as well as increased stakeholder demands, which contribute to new challenges in business operations (Barich and Kotler, 1991). In addition, the entry of new competitors into every industry, with new technology has added to increased organizational pressures on business operations (Shih and Jue, 2006). To survive and succeed in business, organizations must adapt continuously in order to keep pace with rapidly-changing economic environments (Hong and Ståhle, 2005).

In response to these changes organizations must have the ability to create novel and improved products, services and product delivery strategies. This ability is the key factor leading to organizational success (Grant, 1996a; Teece, Pisano and Shuen, 1997). Given this ability, the successful organization in the global marketplace is able to continually adapt and develop effective operations as exemplified on the global stage by the constant innovative product and marketing strategies adopted by Apple and Samsung as they constantly “re-invent” their product lines. Pöyhönen (2004) stated that the ability to make adaptation and development is an attribute of renewal capability. Previous studies have indicated that renewal capability is the ability to refresh or adjust to keep up with environmental change in order to make the business of the organization become more long-lasting (Pöyhönen, 2004; Ståhle, 2000). Moreover, renewal capability results in modifying proactively in ways that promote the survival and sustainability of the organization. Not only does the renewal capability respond to the

current challenges and changes, but it also assists by prefiguring innovations in anticipation of changes in future market directions (Hamel, 2000). Furthermore, strategic renewal helps in making an organization modify decision-making style, structure, strategy and other operational aspects that influence organizational performance (Lester and Parnell, 2002). It has been found in previous research that renewal capability is directly related to the survival and sustainability of organizations (Khumyat and Pratoom, 2015).

The concept of renewal has often been used strategically (Capron and Mitchell, 2009; Lavie, 2006; Murmann, 2003; Salvato, 2009). Previous studies indicate that strategic renewal refers to the procedures, processes and means of making organizational changes by focusing on the organization's long-term organizational operation which has a critical influence on its success or failure in the future (Agarwal and Helfat, 2009). To expand an understanding of renewal, this research is aimed at the integration of concepts relating to strategic renewal and renewal capability to generate a new concept. Therefore, in this research strategic renewal capability is defined as processes or methods to promote the ability of an organization to refresh itself within the terms of its business goals to make the organization become more sustainable; long-lasting and successful in the future.

As discussed in the Literature Review which follows, strategic renewal capability is defined as the ability of an organization to gather and integrate the skills, knowledge and abilities of its individual members as they relate to organizational strategy and organizational success (Pöyhönen, 2004). Similarly, Spender (1996) stated that strategic renewal capability is embedded in organizational knowledge. Successful organizations use this ability to maintain and improve their efficiency and develop innovative products in order to respond to the needs of the market.

In addition, the aim of organizational renewal is to adapt to survive in environmental turbulence. Therefore, organizations must have the ability to adapt the changing environments (Ussahawanitchakit, 2007). Valuable resources of the organization are used in the process of organizational renewal which ideally should be integrated with the organization's strategies. Thus, strategic renewal capability is formed by the integration of three main perspectives, namely, knowledge management,

intellectual capital and strategic management perspectives (Hong and Ståhle, 2005). Within these perspectives, the knowledge management perspective is to understand the context of the organization, which leads to the capabilities within an organization. Organizations use this capability to maintain and develop themselves (Henderson and Cockburn, 1995; Kogut and Zander, 1995). The intellectual capital perspective focuses on the internal resource exploitation by an organization, which allows it to enhance organizational performance. Lastly, the strategic management perspective relates to the creation of competitive advantage. This perspective stimulates adaptation and innovation in order to build organizational competitiveness (Ståhle and Grönroos, 2000).

The literature review discusses the three perspectives proposed by Hong and Ståhle (2005), and it can be concluded that maintenance, development, adaptation and innovation are identified as key factors within the dimensions of strategic renewal capability. These factors are consistent with the concepts proposed by Ståhle (2000) and Pöyhönen (2004). However, there remain differences between the studies of Ståhle (2000) and Pöyhönen (2004). Ståhle (2000) focused on organizational adaptation as a means of responding to changing environments to ensure organizational survival. He identifies the dimensions of strategic renewal capability as consisting of maintenance development and adaptation. Meanwhile, the study of Pöyhönen (2004), which focused on strategically proactive measures to promote organizational success and sustainability, identified dimensions of strategic renewal capability as consisting of maintenance development and innovation. More recently a study by Khumyat and Pratoom (2014) has identified dynamic organizational learning, continuous organizational development orientation, proactive knowledge improvement awareness, flexible business practice concentration, and aggressive idea generation commitment as dimensions of organizational renewal capability. However, this research proposes a view which is different from that presented in the study of Khumyat and Pratoom (2014). In this research, the concepts of Ståhle (2000) and Pöyhönen (2004) are integrated by combining the elements of the dimensions of strategic renewal capability proposed by them. Hence, the dimensions of strategic renewal capability as posited in this research combine operational maintenance focus, environmental adaptation

orientation, business development capability and organizational innovation enhancement.

Strategic renewal capability has been recognized as essential to dynamic capabilities from three reasons: first, dynamic capabilities refer to the ability to renew the competencies to conform to the changing business environment by integrating, adapting, and reconfiguring organizational resources to develop functional competencies (Helfat et al., 2007). Second, renewing dynamic capabilities are concerned with the ability of the organization to focus on expanding or modifying its resource base to sustain an income stream in changing environments (Rothaermel and Hess, 2007). Lastly, renewing capability may require creating a new product or extending existing brands as new product applications (Agarwal and Helfat, 2009). On the one hand, organizations must be continually updated to survive and prosper under conditions of changing business environment. On the other hand, the contingency theory explains why organizations must have the ability to renew. This theory attempts to identify operating within the limitations of an environment for the organization-to be able to maintain performance and generate business opportunities. Hence, the success of an organization depends on its capability to adjust to fit new each situation, taking into account both internal and external factors, and this is linked to its ability to maintain, adapt, develop and innovate to achieve survival and sustainability. All these abilities are identified as the ability of strategic renewal capability enunciated by Junell and Ståhle (2011) and Pöyhönen (2004). It is in this context that the dynamic capability theory, as proposed in this research, is employed to explain strategic renewal capability and its consequences. The contingency theory is also applied to describe the antecedents of strategic renewal capability and the moderating effect of the relationship between strategic renewal capability and its antecedents.

To gain further insights into effective renewal practices, studies of strategic renewal capability are investigated in the context of businesses that require the ability to renew within rapidly changing environments. Commentators have pointed out that the challenges faced by the telecommunications industry, the electronics industry and the software industry place them under increasing pressure to adapt themselves to survive in their businesses given the high levels of competitive turbulence and

environmental uncertainty in which they operate (Garrett, Buisson and Yap, 2006 ; Thongsodsang, 2012). In addition, the Board of Investment of Thailand (http://www.boi.go.th) has reported that Thailand's successes in the provision of technology, communication and infrastructure support resources can only be sustained through constant innovation. The software business in Thailand is crucial for the growth of the national economy and in meeting the increasing challenges posed by foreign competitors. For this reason, it is important to investigate how firms in Thailand can best use strategic renewal capabilities to exploit their potentials in terms of maintaining and increasing their competitive advantage, thereby maximizing their potentials in national and international markets.

It is against this background that this research investigates the relationships between strategic renewal capability, goal achievement excellence, stakeholder expectations fulfillment, dynamic corporate competitiveness, organizational survival and firm sustainability. It is anticipated that the results of this study will be beneficial in both theoretical and practical terms as a contribution to managerial practices. The core theoretical contribution relates to conceptualizing strategic renewal capability as a multi-dimensional construct, applying a newly developed dimension, differing from and advancing the current literature relating to renewal capability. In this research, the dimensions of strategic renewal capability cover the three perspectives outlined by Pöyhönen (2004), Ståhle (2000) and Hong and Ståhle (2005), which combine elements of operational maintenance focus, environmental adaptation orientation, business development capability and organizational innovation enhancement.

It is anticipated that this research, will provide a deeper understanding of strategic renewal capability and will form a basis for future research. As indicated this research attempts to incorporate and extend existing theories to generate a new conceptual model, incorporating the dynamic capability theory (Teece, Pisano and Shuen, 1997) and the contingency theories of Drazin and Van de Ven (1985) and Venkatraman and Camillus (1984). Furthermore, the results of this research may contribute to enhance managerial practices by emphasizing the advantages and usefulness of concentrating on the implementation of strategic renewal capability to promote the survival and sustainability of software businesses in Thailand.

Purposes of the Research

The main purpose of this research is to investigate the relationship between strategic renewal capability and firm sustainability. The specific research purposes are also as follows:

1. to investigate the relationships among each of the four dimensions of strategic renewal capability (operational maintenance focus, environmental adaptation orientation, business development capability and organizational innovation enhancement) and goal achievement excellence, stakeholder expectations fulfillment, dynamic corporate competitiveness, organizational survival and firm sustainability,
2. to examine the relationships among goal achievement excellence, stakeholder expectations fulfillment and dynamic corporate competitiveness,
3. to examine the effect of organizational survival on firm sustainability,
4. to investigate the relationships among forward-looking vision, learning utilization, resource complementarity, technology growth, market change, and each of the four dimensions of strategic renewal capability, and
5. to test the moderating role of competitive turbulence on the relationships among forward-looking vision, learning utilization, resource complementarity, technology growth, market change, and each of the four dimensions of strategic renewal capability.

Research Questions

The key research question is how does strategic renewal capability relate to firm sustainability? The specific research questions are as follows:

1. How do each of the four dimensions of strategic renewal capability relate to goal achievement excellence, stakeholder expectations fulfillment, dynamic corporate competitiveness, organizational survival and firm sustainability?
2. How do goal achievement excellence, stakeholder expectations fulfillment and dynamic corporate competitiveness relate to organizational survival?
3. How does organizational survival relate to firm sustainability?

4. How do forward-looking vision, learning utilization, resource complementarity, technology growth and market change relate to each of the four dimensions of strategic renewal capability?

5. How does competitive turbulence moderate the relationships among forward-looking vision, learning utilization, resource complementarity, technology growth, market change, and each of the four dimensions of strategic renewal capability?

Scope of the Research

The main purpose of this research is to examine the relationships between strategic renewal capability and firm sustainability in Thailand's software businesses. Fifteen variables are outlined in the conceptual framework. These include the strategic renewal capability of an organization which plays an important role as an independent variable and is defined as the capability of the organization to sustain its current success factors and at the same time proactively build new strengths for the future. Other variables relate to the ability of an organization to implement renewal processes to achieve effective maintenance, incremental development, innovation and change (Junell and Ståhle, 2011; Pöyhönen, 2004; Ståhle and Gronroos, 2000; Ståhle et al., 2003).

The theories that are utilized are the dynamic capability theory and the contingency theory. Both theorizations show the relationships among the dimensions of strategic renewal capability, its antecedents, and its consequential constructs. This research proposes the theory of interaction to explain the relationship of each variable that concentrates on examination in order to fulfill the research questions and objectives. Firstly, the dynamic capability theory was first introduced by Teece, Pisano and Shuen (1997) to describe why firms are able to survive and succeed in an uncertain environment. The main premise of the theory proposes that the ability of the organization to integrate, build and reconfigure its competitiveness in order to deal with rapidly changing environments is a combination of features of dynamic capability. Additionally, dynamic capabilities are related to the ability to bring benefits to an organization by using focused resource management to generate new value-creating

strategies such as product development, business opportunities and marketing choices (Pöyhönen, 2004).

This research employs the dynamic capability theory to explain the relationships among strategic renewal capability and its consequences. This is because the concept of dynamic capability, associated with renewing capability, involves: 1) dynamic capability; the ability to renew competencies to conform with changing business environments by integrating, adapting, and reconfiguring organizational resources to develop functional competencies, 2) dynamic capabilities concerned with the ability of the organization to focus on expanding or modifying its resource base to sustain an income stream in changing environments, and 3) renewing capability leads to the creation of new products or the extension of existing brands. In these ways an organization is continually updated to survive and prosper under conditions of a changing business environment (Ambrosini, Bowman and Collier, 2009).

The contingency theory has been used to explain the phenomenon of changes in the external environment that affect organizational behavior (Helfat et al., 2007). Fiedler (2006) suggested that the contingency theory explains practical selection methods to be appropriate to the situation. Hence it is recognized that there is no single solution or "best practice" relating to organizational responses to changes in the environments in which it operates (Duncan, LaFrance and Ginter, 2003). The contingency theory suggests that internal and external factors are important to the survival of the organization. Organizations need to have a strategy for adaptation and development to enhance the success of business. In terms of this concept, internal and external factors have an influence on strategic renewal capability (Anderson and Lanen, 1999; Fakhri, 2012). The two theories outlined above indicate that the dynamic capability and contingency theory are appropriate to explain the ability of strategic renewal capability to bring competitiveness and sustainability to a firm; and internal and external factors have an influence on strategic renewal capability.

In this research, strategic renewal capability consists of four dimensions, namely, operational maintenance focus, environmental adaptation orientation, business development capability and organizational innovation enhancement. The consequences of strategic renewal capability are also investigated along with goal achievement

excellence, stakeholder expectations fulfillment, dynamic corporate competitiveness, organizational survival and firm sustainability. Likewise, antecedents that are both internal and external factors determine strategic renewal capability. These factors include forward-looking vision, learning utilization, resource complementarity, technology growth, and market change. This research tested the moderating effect on the relationships among forward-looking vision, learning utilization, resource complementarity, technology growth, market change, and each of four dimensions of strategic renewal capability by competitive turbulence as the moderator. In addition, the age and the size of a firm were identified as the two controlled variables.

Software businesses in Thailand were selected as the target group for testing using convenience sampling techniques. The population was selected from the database of the Software Industry Promotion Agency of Thailand (SIPA), comprising a total of 855 firms as at the 25th of March 2016 (http://www. sipa.or.th). The chief executive officer (CEO) or executive director of each firm was considered as the appropriate key informant. Similarly, data were collected using a questionnaire survey that was mailed to each firm. To ascertain the quality of the questionnaire, the validity and reliability was tested using factor analysis and Cronbach's alpha. In addition, the test of non-response bias has been used to identify possible response bias between early and late respondents. In this research, multiple regression analysis has been employed as the main statistical technique to test the effects of relationships between constructs. Furthermore, descriptive analysis, variance inflation factors (VIF's), homoscedasticity, and correlation analyses are employed to test the basic assumption of regression analysis.

Organization of the Dissertation

This research is organized into five chapters. Chapter I provides an overview of the motivation and purposes of this research, the role of organizational renewal, its antecedents and consequences, the research questions, the scope of the research, and the organization of the dissertation. Then, chapter II presents a review of relevant literature on strategic renewal capability to provide a basis for the theoretical framework explains

the conceptual model and develops the hypotheses. Chapter III explains the empirical examination of the research methods, comprising the sample selection and data collection procedure, the variable measurements of each construct, the testing of the reliability and validity of the survey instrument, the statistics and equations used to test the hypotheses, and the Tables summarizing the definitions and operational variables of the constructs. Chapter IV demonstrates the results of the statistical analysis and discussion. Finally, chapter V presents the conclusions to this research, and the theoretical and managerial contributions, the limitations of the research, and suggestions for future research.

CHAPTER II

LITERATURE REVIEW AND CONCEPTUAL FRAMEWORK

The previous chapter provides an overview of strategic renewal capability, the key focus of this research, and outlines the research objectives, the research questions and the scope of the research. This chapter explores the concepts of strategic renewal capability through a review of the literature providing details of the theoretical foundation of the research and leading to the development of the hypotheses referenced to the research questions and objectives of this research.

This chapter is divided into three major sections. The first section presents the discussion of theories that underpin and support the conceptual model central to this research. The second presents the literature review relating to the constructs in the conceptual framework detailing definitions and the previous studies relative to strategic renewal capability. The final section discusses the relationships between the constructs in the conceptual model and details the development of the hypotheses.

Theoretical Foundations

The first section attempts to integrate the many theoretical perspectives that support the relationship between all constructs in the conceptual model; the dynamic capability and the contingency theories that have been used to support this research. The dynamic capability theory explains the capability of the firm to increase the competencies of competitiveness within a changing business environment by maintenance, adaptation, development and innovation that enables the firm to be sustainable (Teece, 2007). Correspondingly, the contingency theory is used to describe the ability of the firm to modify itself to enable renewal in response to internal and external environmental factors to ensure its survival (Anderson and Lanen, 1999).

Dynamic Capability Theory

The current corporate climate of increasing globalization and environmental turbulence makes it essential for organizations to adapt if they are to survive (Schmitt and Klarner, 2015**).** In today's corporate world, as in the natural world, it is a case of survival of the fittest; those best able to adapt to change. Thus, organizations need to build the capability for organizational adaptation to respond to environmental change (Ussahawanitchakit, 2007). Dynamic capability theory seeks to explain the ability of an organization to adapt to fit environmental change to achieve competitive advantage. Teece, Pisano and Shuen (1997) defined dynamic capability as the ability of an organization to deal with a rapidly changing environment by integrating, building, and reconfiguring both its internal and external competencies.

Dynamic capability is a part of the resource-based view that explains an approach of the organization to achieve a sustainable competitive advantage (Barney, 1997), which is separate from the knowledge-based view. According to Teece, Pisano and Shuen (1997), strategic management theory analyses the ability of a firm's strategies to create competitive advantage and maintain successful operations yet but does not provide a clear understanding of how and why firms create competitive advantage in regimes of rapid change. This indicates that dynamic capability is different from a knowledge-based approach because dynamic capability focuses on the abilities of the firm, whereas a knowledge-based view focuses on an understanding of how and why a firm is successful.

Dynamic capabilities relate to two major factors; the abilities of a firm which bring about a competitive advantage to the firm; they are, "dynamic" and provide "capability." The term "dynamic" refers to the capability of the organization to renew competencies in order to cope with changing business environments. A firm must be able to keep up with changes in technology growth to enable it to manage competitive turbulence and thereby achieve sustainability and retain competitiveness. "Capability" refers to the organization's ability to manage complexity occurring in the external and internal environments. The concept of dynamic capability assists in explaining a firm's abilities in terms of maintenance, adaptation, development and innovation which enables it to a respond to a dynamic environment. Further, dynamic capability relates

not only to the survival of an organization in a climate of environmental turbulence, but also extends to the firm achieving sustainability (Teece, Pisano and Shuen, 1997; Winter, 2003).

In this regard dynamic capability is the ability of an organization to benefit by using effective resource management to achieve new value-creating strategies such as product development, business opportunities and focused marketing decisions (Pöyhönen, 2004). Teece, Pisano and Shuen (1997) suggested that redeploying the valuable resources of the organization may be insufficient to promote competitive advantage, but rather success may result from the ability to respond to rapid to changes through, for example, flexible product innovation, coupled with management capabilities effective in enhancing internal and external competencies. According to Teece, Pisano and Shuen (1997), organizations need to have the ability through dynamic capability to use their resources to achieve sustainable competitive advantage. In addition, Teece, Pisano and Shuen (1997) have also suggested that, if an organization has resources and competencies but lacks dynamic capabilities, it may not be able to sustain a competitive advantage. Moreover, dynamic capabilities also relate to the firm's ability to respond rapidly to expectations by adopting marketing strategies to fit with market changes (Eisenhardt and Martin, 2000).

Dynamic capabilities are developed through the co-evolution of the learning processes: experience accumulation, knowledge articulation and knowledge codification. In this regard environmental conditions, organizational features and the characteristics of the learning tasks determine the performance of each process (Zollo and Winter, 2002). In contrast, Eisenhardt and Martin (2000) proposed that dynamic capabilities arise through learning how to modify those operations of the organization that relate to the dynamics of the market environment. In addition, Eisenhardt and Martin (2000) highlighted that taking account of the rate of change in the market environment is important.

In this research, dynamic capability theory is applied to describe strategic renewal capability as dynamic capabilities are seen as the specific strategic processes of an organization to build, integrate and reconfigure competencies to succeed in a climate of rapid environmental change (Eisenhardt and Martin, 2000; Teece, Pisano and Shuen,

1997). In addition, Teece (2007) stated that dynamic capabilities can be disaggregated into a firm's capacity that: (1) to recognizes opportunities and threats, (2) creates successful opportunities and, (3) maintains competitiveness by enhancing, combining, protecting and, when necessary, reconfigures the operating a business using intangible and tangible assets. This statement is consistent with renewal capability because of the ability of the organization to utilize maintenance, adaptation, development and innovation (Pöyhönen, 2004).

There are three main reasons proposed as to why dynamic capabilities may be seen as consistent with renewal capability. First, dynamic capabilities are the routines regarding processes of product development, technology and knowledge transfer, and quality control (Pöyhönen, 2004) in accord with the importance of operational maintenance and business development capability. Second, dynamic capability is the ability to sense the emerging market and technology opportunities, as well as to seize these opportunities by creating innovation to respond to the diverse demand of markets (Pöyhönen, 2004), conforming to organizational innovation enhancement. Third, dynamic capability is the ability to adapt, and apply routines and behaviors in response to rapidly changing environments in order to maintain competitiveness (Teece, Pisano and Shuen, 1997); this is consistent with environmental adaptation orientation. These observations elucidate the dimensions of strategic renewal capability, and indicate that this theory is appropriate to explain the ability of strategic renewal capability to enhance the competitiveness and sustainability to a firm. This research defines dynamic capability of an organization as its abilities in terms of strategic renewal capability which enable it to keep pace with a rapidly changing environment, to build integrate, and reconfigure its resources and competencies.

In conclusion, dynamic capability theory is applied to explain the relationships among the four dimensions of strategic renewal capability and goal achievement; excellence, stakeholder expectations fulfillment, dynamic corporate competitiveness, organizational survival and firm sustainability.

Contingency Theory

Environment changes influence the operations of virtually all organizations which, accordingly, need to have appropriate response mechanisms to survive in a dynamic environment (Mulili and Wong, 2011). The contingency theory has been used to explain the phenomenon of changes in the environment that affect organizational behavior (Helfat et al., 2007). Fiedler (1967) suggested that the contingency theory explains the selection of practical methods that are appropriate to changing situations. As discussed in Chapter I, as observed by Vroom and Yetton (1973), there is no single solution or "best practice" relating to organizational responses to changes in the environments in which an organization operates.

As circumstances, internal or external to an organization change management changes must follow. A basic assumption underpinning contingency theory is that an organization must continually adjust to achieve a suitable fit between the external environment and the organization's operations (Tsang and Yip, 2007). The principle elements of the contingency theory approach can be summarized under four headings. First, there is no one principle or best way to success. Second, organizations have a need to adjust themselves to fit with the environment. Third, the subsystems of the organization need to fit with the environment to have effective performance. Fourth, the design of working processes within an organization should be appropriate to the working processes and the characteristics of the tasks it performs (Duncan, LaFrance and Ginter, 2003).

The contingency theory has attempted to identify how, while operating under the terms of a specific environment, an organization has the ability to maintain performance and generate business opportunities. Therefore, the success of the organization depends on the level of organizational adjustment in each situation by considering both internal and external factors (Cadez and Guilding, 2008). Furthermore, Anderson and Lanen (1999) suggested that internal and external factors are important to the survival of the organization. Organizations need to have a strategy for adaptation and development to enhance the success of their business. In this context it is recognized that internal and external factors influence the performance of the organization (Anderson and Lanen, 1999; Fakhri, 2012). The internal environmental

factors are those factors within the organization that moderate the operation of the organization, such as learning, resources, policy, climate and leadership (Lawrence and Lorsch, 1967). Meanwhile, the external factors are the environmental factors outside the organization that influence the organization's operations, such as in technology growth, market change, business environments and competitive turbulence (Sauser et al., 2009).

Through applying the concepts embedded in contingency theory one can explain the impact of internal and external factors as to the ability of an organization to achieve strategic renewal capability. It indicates that environmental factors within the organization and changes in the outside environment impact on organizational performance. Hence, it leads to improved management performance to create success in a changing environment (Chenhall and Langfield, 1998). For the above reasons, it can be seen that internal and external factors drive the organization to have the maintenance, adaptation, development and innovation if it is to achieve survival and a sustainable development.

The contingency theory is used in this research to explain the relationship among strategic renewal capability, organizational survival, dynamic corporate competitiveness, goal achievement excellence, dynamic corporate competitiveness and firm sustainability which depend on the external and internal environments. In addition, this research proposes external factors that include technology growth and market change that impact strategic renewal capability. This research highlights the moderating effects of competitive turbulence to the relationship between antecedent factors namely, forward-looking vision, learning utilization, resources complementarity, technology growth and market change, to strategic renewal capability.

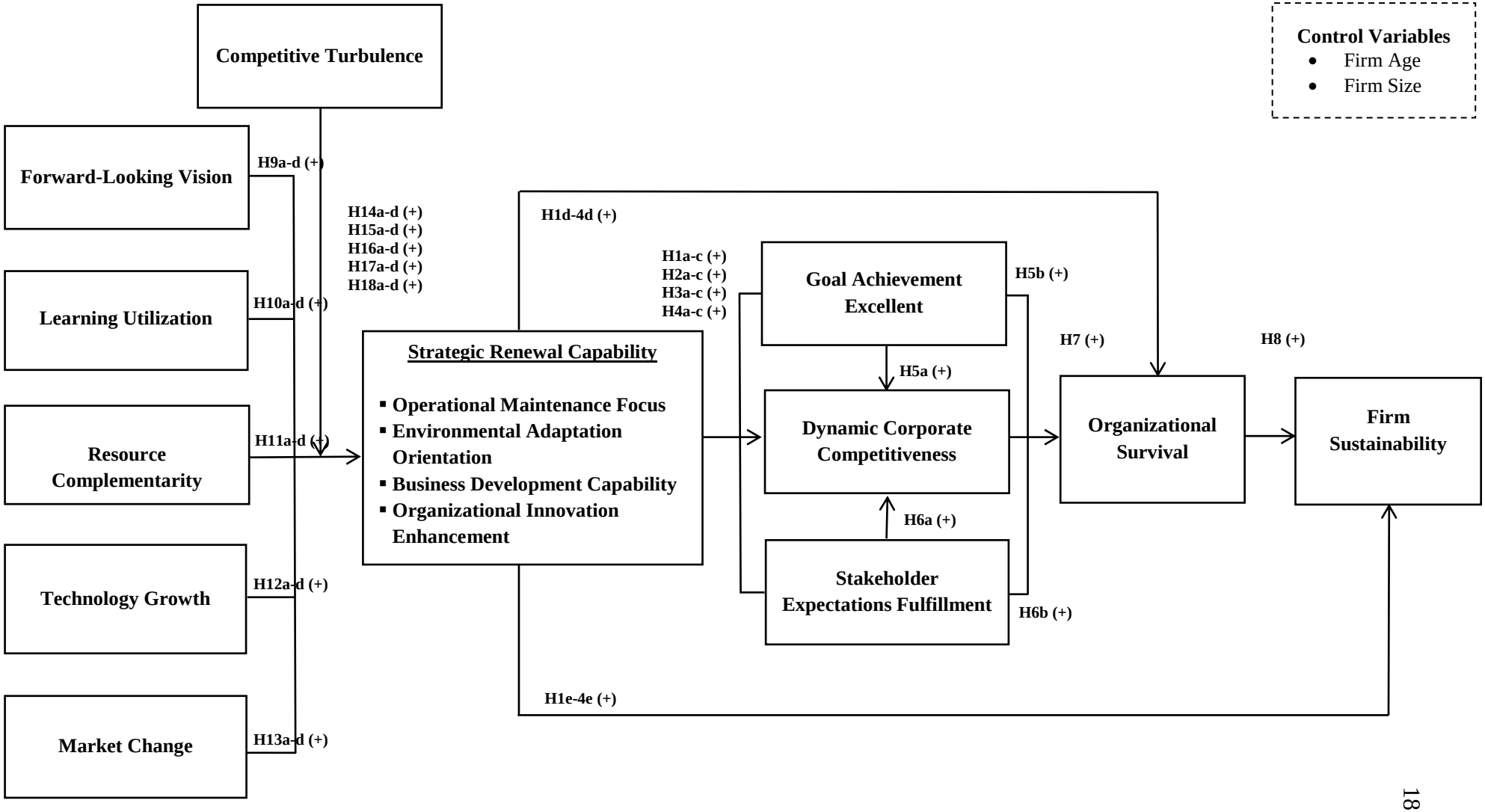
In summary, the phenomena and relationships explored in this research are explained by the dynamic capability and the contingency theories. These theories are applied to explain the relationships between the variables. The dynamic capability theory is able to explain the impact of strategic renewal capability on a firm's sustainability through goal achievement excellence, stakeholder expectations fulfillment, dynamic corporate competitiveness and organizational survival; and the influence of forward-looking vision, learning utilization and resources complementarity on the strategic renewal capability.

Likewise, the contingency theory can explain that external factors (technology growth and market change) have an effect on strategic renewal capability. Furthermore, this theory can also explain the moderating effect of competitive turbulence on the relationship between antecedent variables and strategic renewal capability.

The Relevance of the Literature Review to the Research Hypotheses

Based on the literature review, this research proposes a conceptual framework for the empirical investigation of this topic; “Strategic Renewal Capability and Firm Sustainability: An Empirical Investigation of Software Businesses in Thailand”, which studies the relationships among the antecedents and the consequences of strategic renewal capability by using the dynamic capability and the contingency theories to explain relationships. The main construct (strategic renewal capability) consists of four dimensions: operational maintenance focus, environmental adaptation orientation, business development capability and organizational innovation enhancement. In addition, there are five influential variables on strategic renewal capability which are forward-looking vision, learning utilization, resources complementarity, technology growth and market change. Moreover, the factors of consequence relating to strategic renewal capability are goal achievement excellence, stakeholder expectations fulfillment, dynamic corporate competitiveness, organizational survival and firm sustainability. The moderating variable is competitive turbulence which has a positive effect on the relationships of the four antecedent variables and the dimensions of strategic renewal capability. Accordingly, the next section presents the details of the literature review and the hypotheses of strategic renewal capability to be discussed and proposed. Finally, a conceptual model of this research is illustrated in Figure 1 as below.

Figure 1 Conceptual Model of the Relationships between Strategic Renewal Capability and Firm Sustainability



Strategic Renewal Capability

Strategic renewal capability emerges from the integration of three main perspectives, namely, knowledge management, intellectual capital and strategic management perspectives (Pöyhönen, 2004). Within these perspectives, the knowledge management perspective is to understand the context of the organization, which leads to the capability of the organization. Organizations used this capability to maintain and develop themselves (Henderson and Cockburn, 1995; Kogut and Zander, 1995). The intellectual capital perspective focuses on the resources exploitation of the organizations, which allows creation the organizational performance. Lastly, the strategic management perspective approaches the creation of competitive advantage. This perspective stimulates adaptation and innovation in order to build organizational competitiveness. Hence, these three perspectives support renewal capability as the dynamic capability of an organization.

Significantly, renewal capability, as a concept, has been associated with the maintenance of radical innovation. This concept focuses on change over time by using strategy formulation, knowledge processes and organizational routines (Junell and Ståhle, 2011). Ståhle (1998) suggested that the ability of renewal capability is a characteristic of dynamic systems. In addition, the researcher has related renewal ability to be reflective, adaptive or radically dependent on the environment as discussed by Junell and Ståhle (2011). The study by Ståhle (1998) suggested that renewal ability includes the renewal capability to operate within different environments and the ability to prioritize the operational environment in line with organization strategy. Therefore, this research defines the strategic renewal capability processes of an organization as a means to promote its ability to adapt and develop and thereby sustain its long term prospects in achieving its future business goals. It relates to the organization's ability to implement renewal processes through effective maintenance, whether by incremental development, or radical innovation. Furthermore, renewal capabilities generate the competitive advantage for the organization, the overall long-term strategy or the vision of the organization, as well as its external environment.

Additionally, strategic renewal capability is viewed as a phenomenon which covers three processes relating to organizational performance. Ståhle (2000) identified renewal capability as consisting of three dimensions as follows: (1) effective standardization, replication, routines, implementation and maintenance of the existing knowledge base and activities; (2) continuous feedback based on the incremental development of a knowledge base, processes and service; and, (3) enhancement and invention of modes of action and innovations. Likewise, the study of Pöyhönen (2004) showed that strategic renewal capability combines the effectiveness of maintenance, incremental development, and radical innovation to sustain competitive advantage. However, Junell and Ståhle (2011) suggested that the renewal concept consists of either maintenance and adaptation, or innovation to organizational change (Ståhle and Gronroos, 2000). In addition, the study of Junell and Ståhle (2011) and Pöyhönen (2004) stated that development capability is an aspect of renewal because it is the ability to bring sustainable growth of the organization, as well as the business development capability that was identified as the process about the potential creation for firm sustainability (Sorensen, 2012).

Based on the literature reviewed above, this research proposes four dimensions of strategic renewal capability, namely, operational maintenance focus, environmental adaptation orientation, business development capability and organizational innovation enhancement. A summary of the conceptual and empirical research of strategic renewal capability is presented in Tables 1 and 2.

Table 1 Summary of the Key Concepts of Strategic Renewal Capability

Authors (Year)	Key Contents
Barr, Stimpert and Huff (1992)	This article suggested that recognizing of organization in their changing environments is different from the organizational renewal process, although they are the same in changing environments. Of course, the performance of the each organization is different. Therefore, the firm's top managers are critical to organizational renewal. They are adjusting the organization according to the significant changes in the environment. The key managerial activities involve: (1) Firm's top managers pay attention to environmental changes. (2) The interpretation of changing environments and (3) Selecting the appropriate strategy to solve the problem.
Ståhle and Grönroos (2000)	This article suggested that the organizational renewal involves to the dynamic operational environment and both innovation and repeatability are the important elements of renewal. Due to, Innovation is what creates the potential for organizational competitiveness. It is able to develop products and create a profitable for the firm. In contrast, If the organization lacks of the skills to replicate, the organization could not maintain innovation. Therefore, self-renewal is required to build new and the ability to replicate.

Table 1 Summary of the Key Concepts of Strategic Renewal Capability (continued)

Authors (Year)	Key Contents
Lester and Parnell (2002)	The strategic renewal capability can be divided into three types of knowledge processes: "1) effective standardization, replication, implementation and maintenance of the existing knowledge base, 2) continuous incremental development of it and 3) productions of radically new knowledge and innovations." (pp.67). Each process of renewal ability is different from management and implementation. The renewal capability is defined both by the organizational capability implement to the replication of existing knowledge by knowledge processes and ability to radical innovations, which these three processes require consistent with the strategy and suitable for the environment of the organization.
Danielson (2004)	Renewal as outcome of organizational capability to continuous usage of organizational innovation. Therefore, renewal capacity or the organizational agility can be defined as the scope of the capacity for innovation that have been used continuously such as innovative products, new service processes and leadership practices and new management model to facilitate sustained competitive success. Which, this renewal capacity includes using purposeful and proactive strategy and knowledge mobilization processes.

Table 1 Summary of the Key Concepts of Strategic Renewal Capability (continued)

Authors (Year)	Key Contents
Pöyhönen (2004)	The renewal capability can be divided into three types of knowledge processes: 1) effective standardization, replication, implementation and maintenance of the existing knowledge base, 2) continuous incremental development of it and 3) productions of radically new knowledge and innovations. Each process of renewal ability is different from management and implementation. The renewal capability is defined both by the organizational capability implement to the replication of existing knowledge by knowledge processes and ability to radical innovations, which these three processes require consistent with the strategy and suitable for the environment of the organization.
Santos and Garcia (2007)	Strategic renewal of organizations is a process of evolution in a firm. This paper aimed to analyze the evolutionary process in a firm throughout its lifetime. The authors found that, the renewal process leads to internal change and it is as a mechanism for organizational adjustment, which organizational renewal is stimulated by the evolution of the environmental conditions. The results of this research focused on managers' attitudes moderate effect of the relationship between need for adaptation and the response from the firm. In addition, the results also indicated that the availability of resources that may be important to the components in the process of corporate renewal. Furthermore, the results indicated that the availability of resources may be key element in strategic renewal process.

Table 1 Summary of the Key Concepts of Strategic Renewal Capability (continued)

Authors (Year)	Key Contents
Agarwal and Helfat (2009)	The first article that define the term "strategic renewal'' and elaborate on important characteristics of phenomenon. This article defines what mean by "strategic" and then defines "renewal". The first one, "strategic" as that which relates to the long-term prospects of the company and has a critical influence on its success or failure. This definition, something is strategic if it relates to a firm's future prospects in a substantial way. The another one, "renew" as "the relevant aspects subject to refreshment or replacement are the strategic attributes of organizations mentioned earlier, such as goals, products and services, resources and capabilities and the like."
Ambrosini et al. (2009)	This article explains the concept of dynamic capabilities associated with renewing capability ; first, dynamic capabilities is the ability to renew the competencies to conform to the changing business environment by integrating, adapting and reconfiguring organizational resources to develop the functional competencies. Secondly, renewing dynamic capabilities is concerned with the ability of the organization to focus on expanding or modifying the resource base to sustain a rent stream in changing environments, lastly, renewing capability led to create a new product or extension of brand for new product application. It is continually updated to survive and prosper under conditions of changing business environment.

Table 1 Summary of the Key Concepts of Strategic Renewal Capability (continued)

Authors (Year)	Key Contents
Junell and Ståhle (2011)	In this paper presented that KM-factor as a measurement tool for renewal capability, which renewal capability can be measured by the case organization, strategic capability and power to change. In addition, measurement of renewal capability related to the archive, maintain and change while the high capability of the organization leads to change and flexibility and no clear weaknesses exist. Finally, this paper suggested that the organization should focus on developing processes to support dynamic capability for building flexible, empowered and applicative direction.
Worch et al. (2012)	Strategic renewal define is a process of substantial change with respect to key organizational attributes to sustain a firm's long term prospects and viability. This paper analyzes how strategic renewal affects the ability of the organization to suit the changing environment in a large utility firm. The results show that the expansion of strategic renewal in the organization, which each organization is different in the process of strategic renewal. Some processes generate benefits immediately for replenishment capabilities. But the process has been delayed due to organizational inertia. As a result, Organizations may face a severe lack of effective and permanent.

Table 2 Summary of a Key Literature Review Empirical Research of Strategic Renewal Capability

Authors	Titles	Independent Variables	Dependent Variables	Results
Dougherty (1992)	A practice-centered model of organizational renewal through product innovation	Technological possibilities, exploitation of knowledge	product innovation	This research reports that Technological possibilities and exploitation of knowledge have a significant positive effect on Product innovation, which it's contribute to firm renewal over time.
Mezias and Glynn (1993)	The Three Faces Of Corporate Renewal: Institution, Revolution and Evolution	Radical innovation and existing technologies	Institution, revolution and evolution	This research proposes that institution, revolution and evolution are the dimensions of corporate renewal. The results suggest that radical innovation and existing technologies affect the three implementers of corporate renewal: institution, revolution and evolution.

Table 2 Summary of a Key Literature Review Empirical Research of Strategic Renewal Capability (continued)

Authors	Titles	Independent Variables	Dependent Variables	Results
Hitt and William (1996)	The learning organization: some reflections on organizational renewal	Learning organization, changing environment, information processing	Organizational renewal	The findings of this research support the effects of learning organization and information processing on effective organizational renewal.
Crossan and Berdrow (2003)	Organizational learning and strategic renewal	Organizational learning	Strategic renewal, organizational innovation	The study illustrates that stronger organizational learning link to strategy and explicitly identifies the challenge associated with managing the tension between exploration and exploitation.

Table 2 Table 2 Summary of a Key Literature Review Empirical Research of Strategic Renewal Capability (continued)

Authors	Titles	Independent Variables	Dependent Variables	Results
Andries and Debackere (2007)	Adaptation and Performance in New Businesses: Understanding the Moderating Effects of Independence and Industry	Technological advance, Business model adaptation.	organizational renewal, organizational adaptation organizational readjustment	This research reports that technological advance and business model adaptation have a significant positive effect on the performance of NTB businesses. In the same way, this result suggests that adaptation is benefit to survival of organization.
Santos and Garcia (2007)	The complexity of the organizational renewal decision: the management role	Changing environment, managers attitude organizational misfits and organizational resources	Organizational renewal, organizational adaptation and organizational readjustment	The results of this study are to show changing environment encourages adaptability of the organization and managers attitude influence the design of the organizational renewal process and to suggest the availability of resources may be the key to organizational renewal.

Table 2 Summary of a Key Literature Review Empirical Research of Strategic Renewal Capability (continued)

Authors	Titles	Independent Variables	Dependent Variables	Results
Chan (2008)	An empirical study of maintenance costs for hotels in Hong Kong	Maintenance cost distribution, obstacles of multi-skilling, maintenance performance maintenance practices	The success of a hotel	This research reports that maintenance cost distribution, obstacles of multi - skilling, maintenance performance and maintenance practices concerned with the resulting actions will affect The success of a hotel. Similarly, hotel operators are able to achieve better maintenance effectiveness through these factors.
Fleury (2009)	Organizational Culture and the Renewal of Competences	Strategic inertia, organizational renewal	Firm performance	The results indicate that the strategic inertia has a significant negative influence firm performance through the decrease of organizational renewal.

Table 2 Summary of a Key Literature Review Empirical Research of Strategic Renewal Capability (continued)

Authors	Titles	Independent Variables	Dependent Variables	Results
Kim and Pennings (2009)	Innovation and Strategic Renewal in Mature Markets: A Study of the Tennis Racket Industry	Innovation	Strategic renewal	The results of this research indicate that innovators should actively manage various industry participants as an integral part of their strategic renewal efforts,
Maletic et al. (2009)	The relationship between sustainability-oriented innovation practices and organizational performance: empirical evidence from Slovenian	Sustainability-oriented, innovation practices	Organizational performance	Organizational performance is significantly related with sustainability-oriented innovation practices. Since, the empirical evidence confirmed the effect of building innovation competencies and integrating innovation activities on organizational processes lead to sustainable organizational performance.

Table 2 Summary of a Key Literature Review Empirical Research of Strategic Renewal Capability (continued)

Authors	Titles	Independent Variables	Dependent Variables	Results
Refaiy and Labib (2009)	The effect of applying tacit knowledge on maintenance performance: an empirical study of the energy sector in the UK and Arab countries	Tacit knowledge	Maintenance performance	The result of this research demonstrates that sharing of tacit knowledge impacts on maintenance performance which promote to overall operations. The result also shows that sharing of knowledge transition becomes explicit knowledge.
Chinese and Ghirardo (2010)	Maintenance management in Italian manufacturing firms: Matters of size and matters of strategy	Maintenance capacity, maintenance facilities, maintenance technology and vertical integration	Firm performance.	This research highlights that maintenance represents of large costs of organization which influences firm performance. In the same way, the findings of this research support the effects of maintenance capacity, maintenance facilities, maintenance technology and vertical integration on firm performance.

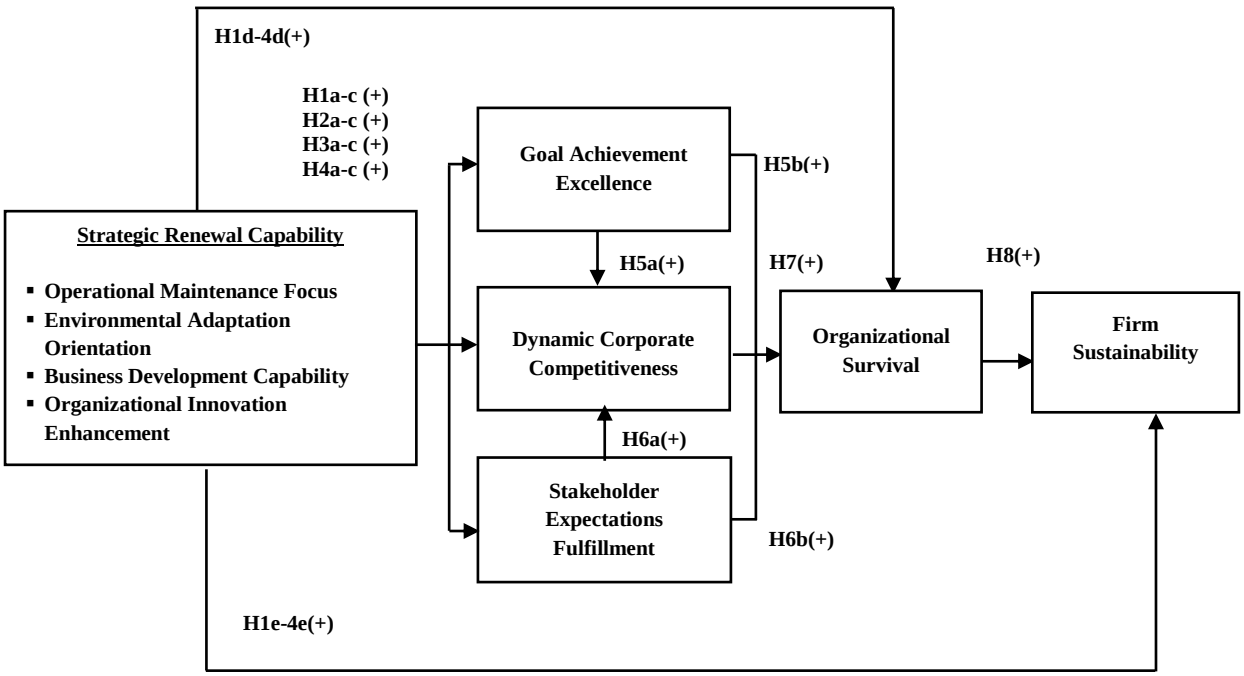
Table 2 Summary of a Key Literature Review Empirical Research of Strategic Renewal Capability (continued)

Authors	Titles	Independent Variables	Dependent Variables	Results
Kraus, Pohjola and Koponen (2011)	Innovation in family firms: an empirical analysis linking organizational and managerial innovation to corporate success	Organizational innovation, managerial innovation	Corporate success	The empirical analysis indicated that the relations between organizational and managerial innovation and corporate success. Hence, innovation can be applied by family firms to build firm sustainability.
Saez-Martinez and Gonzalez-Moreno (2011)	Strategic Renewal, Cooperation and Performance: A Contingency Approach strategy	Strategic renewal and technological intensity	Firm performance	The results of empirical analysis suggest that strategic renewal activity is related to firm performance. Also find that the degree of technological intensity of the environment moderate the relationship between strategic renewal and firm performance

The Effects of Strategic Renewal Capability on its Consequences

This section investigates the influences of the four dimensions of strategic renewal capability consisting of: 1) operational maintenance focus, 2) environmental adaptation orientation, 3) business development capability, and 4) organizational innovation enhancement and its consequences, including goal achievement excellence, stakeholder expectations fulfillment, dynamic corporate competitiveness, organizational survival and firm sustainability as shown in Figure 2.

Figure 2 The Effects of Strategic Renewal Capability on Goal Achieve Excellence, Stakeholder Expectations Fulfillment, Dynamic Corporate Competitiveness, Organizational Survival and Firm Sustainability



Operational Maintenance Focus

Effective treatment is identified as one of the dimensions of strategic renewal capability in which the process of maintenance comprise the maintenance of skills, abilities and knowledge of the organization. It also includes maintenance tools, equipment or things that are used in the business of the organization (Junell and Ståhle, 2011; Pöyhönen, 2004). In addition, the main goal of maintenance relates to the efficiency of organizational operations over time (Pöyhönen, 2004). Hence, maintenance is important for administrators who need to maintain the efficiency of the organization in an environment that is changing rapidly (Chan, 2008).

Maintenance in this context relates to the linkages between management practices that sustain both tangible and intangible assets for the renewal functions of the organization (British Standards Institution, 1993). Swanson (2001) stated that the operational maintenance focus is the relationship between the concepts of maintenance policy and maintenance efficiency to accomplish organizational purposes. The studies of various researchers have highlighted the importance of the operational maintenance focus as it relates to the overall performance of an organization (British Standards Institution, 1993). The research of Tsang (2002) opined that maintenance plays as an important role for reduction of costs conducive to increasing the profit of an organization. Moreover, the study of Pinjala, Pintelon and Verecka (2006) found that a positive relationship between maintenance and product improvement may lead to the appeasement stakeholder demands; for instance, in a hotel environment, maintaining facilities that satisfy specific customer's needs.

In this research, operational maintenance focus is defined as the activity of an organization which involves maintenance skills, abilities and knowledge, as well as providing the physical assets that facilitate the operations of the organization in order to maintain the firm in a rapidly changing environment. Meanwhile, operational maintenance focus is viewed as the ability to lead the organization to sustainable development as it helps reduce operational conflicts and increases the performance of the organization (Swanson, 2001). Additionally, if organizations can maintain performance under environmental turbulence, they will achieve and sustain competitive advantage (Chan and Kenny, 2008). Thus, this research has highlighted that the

operational maintenance focus is associated with organizational competitiveness. In a similar way, operational maintenance focus is defined as maintenance performance under environmental change; thus, influencing the survival of the organization (Hamel, 1998; Teece, Pisano and Shuen, 1997). Hence, these ideas lead to posit the following hypotheses.

Hypothesis 1a: Operational maintenance focus will positively relate to goal achievement excellence.

Hypothesis 1a: Operational maintenance focus will positively relate to goal achievement excellence.

Hypothesis 1b: Operational maintenance focus will positively relate to stakeholder expectations fulfillment.

Hypothesis 1c: Operational maintenance focus will positively relate to dynamic corporate competitiveness.

Hypothesis 1d: Operational maintenance focus will positively relate to organizational survival.

Hypothesis 1e: Operational maintenance focus will positively relate to firm sustainability.

Environmental Adaptation Orientation

Environmental adaptation is defined as a specific capability within an organization to respond to environmental change and to use this ability to sustain both survival and competitiveness to bring about organizational success (Lee, 2001). This adaptation arises from an organization's efforts to improve its businesses to suit a rapidly changing environment and focus on achieving organizational success in the face of the challenges it confronts (Lee, 2001). The objective of adaptation is to establish a balance within the organization when faced with change (Cameron, 1984). The

compatibility of an organization's operations to its environment will determine the success of the organization. Therefore, to remain sustainable, organizations need to focus on environmental adaptation (Jennings and Seaman, 1994).

The concept of adaptation has been recognized as one of dimensions of strategic renewal capability because the successful adjustment of an organization to fit the business environment is consistent with the objectives of strategic renewal capability, and ensures the survival and sustainability of the organization (Junell and Ståhle, 2011; Pöyhönen, 2004). Moreover, the study of Pitt and Kannemeyer (2000) found that environmental adaptation can help to stabilize an organization as it aims to adapt its business model to harmonize with the market by taking into account the uncertainties relating to risk and technology which create business ambiguity. Similarly, Stoica and Schindehutte (1999) have stated that the adaptive organization helps its business to develop over time. The role of entrepreneurs is to use their experience to support the promotion of products and markets, and to assist suppliers, employees and other interests that have an influence on the organization. Therefore, it is highly probable that environmental adaptation orientation influences survival and sustainability. In addition, Morris and Zahra (1999) suggested that adaptation is very useful for organizations in environmental change as organizations which successfully implement adaptations that will achieve higher organizational competitiveness than organizations without adaptation.

In this research, it is suggested that environmental adaptation orientation means that a firm is able to respond to the expectations of stakeholders as adaptation having been identified as the ability to integrate technological innovation with the operations of the organization which in turn responds to stakeholder expectations (Morris and Zahra, 1999; Shane and Stuart, 2002). Furthermore, the research of Stoica and Schindehutte (1999) indicated a relationship between adaptation and performance. So, it is probable that environmental adaptation orientation influences goal achievement. Therefore, the following hypotheses are proposed:

Hypothesis 2a: Environmental adaptation orientation will positively relate to goal achievement excellence.

Hypothesis 2b: Environmental adaptation orientation will positively relate to stakeholder expectations fulfillment.

Hypothesis 2c: Environmental adaptation orientation will positively relate to dynamic corporate competitiveness.

Hypothesis 2d: Environmental adaptation orientation will positively relate to organizational survival.

Hypothesis 2e: Environmental adaptation will positively relate to firm sustainability.

Business Development Capability

The potentiality for business development is a major factor relating to the success of an organization. Organizations rely on a capability for business development to create business opportunities for growth and as a factor which helps them achieve competitive advantage (Junell and Ståhle, 2011; Pöyhönen, 2004). Business development capability has been identified as an aspect of business renewal capability; the ability to bring about change and sustainable growth within an organization. Additionally, business development capability has been identified as providing the potential for promoting organizational growth (Sorensen, 2012). Likewise, Davis and Sun (2006) stated that business development is a set of processes, activities and skills that enables organizations to achieve growth by identifying opportunities and guidelines for effective resource management. The objective of business development is to prepare for new business opportunities in line with the overall strategy of the organization (Valeria and Sorensen, 2014). Thus, it consists of three processes: 1) identifying business opportunities through screening market information, 2) evaluating the likelihood of a profitable market potential and suitability strategy and 3) the integration of resources to enhance the efficiency of business operations.

Business development capability has been identified as a dynamic capability that can cope with a changing environment (Eisenhardt and Martin, 2000; Teece, 2007)

and which arises from the ability to integrate knowledge, expertise and resources within the organization for the successful construction of growth opportunities in an unpredictable environment (Sorensen, 2012). Business development capability is focused on efforts to enhance the business value of an enterprise. Thus, it is associated with the development of market channels, products and relationships with stakeholders (Gibb, 2006).

In addition, the studies of Sorensen (2013) reported that business development was directly relates to the performance of an organization which this author identifies as a factor that leads to organizational competitiveness. Likewise, the study of Soltani, Ramazanpoor and Eslamian (2014) suggested that business development is a key process towards gaining a market advantage over competitors there by promoting sustainability. In addition, business development capability has also been recognized as having a relationship with the survival of organizations (Eisenhardt, 1989; Eisenhardt and Martin, 2000; Teece, 2007; Teece, Pisano and Shuen, 1997). Moreover, the processes of business development capability are related to the development of a relationship between organizations and stakeholders. Hence, it may be related to stakeholder expectations. Therefore, hypotheses are proposed as follows:

Hypothesis 3a: Business development capability will positively relate to goal achievement excellence.

Hypothesis 3b: Business development capability will positively relate to stakeholder expectations fulfillment.

Hypothesis 3c: Business development capability will positively relate to dynamic corporate competitiveness.

Hypothesis 3d: Business development capability will positively relate to organizational survival.

Hypothesis 3e: Business development capability will positively relate to firm sustainability.

Organizational Innovation Enhancement

Innovation is an important organizational strategy. It was identified as strategic proactivity, one of the goals of strategic renewal capability (Ståhle and Gronroos, 2000). The dimensions of strategic renewal capability indicate that innovation is about proactively building new strengths for the future (Pöyhönen, 2004). Many scholars have expressed the view that innovation relates to the introduction of a new concept, behavior or process. Such innovation may extend to new products, new services, new technologies, or new management strategies (Damanpour and Evan, 1984; Khan and Manopichetwattana**,** 1989). Wu and Lin (2011) stated that innovation has two distinct aspects, namely, technological innovation and management innovation. The concepts surrounding technology innovation refer to creating new products, new services and new technology and have led to a new term, "technovation", being coined. Management innovation relates to creating new markets, new supply sources, and new organizational approaches. However, all are crucial to organizational renewal to ensue firm sustainability.

Peng, Liu and Lin (2015) stated that increases in environmental uncertainty and competition necessitate the need for organizations to improve their business performance if they are to sustain their competitive edge. One way to do this is by developing unique innovations to enable survival to succeed in an uncertain environment. Hence, organizational innovation has been recognized as the ability to enable organizations to survive and succeed in an uncertain environment.

Organizational innovation enhancement in this research is defined as a comprehensive set of characteristics within organizations that (Burgelman, Maidique and Wheelwright, 2004). Organizational innovation is about promoting new technology or new administrative practices to enhance the operation of an organization. It can also be referred to as the ability to transform knowledge into new ideas and new methods to benefit the organization (Lawson and Samson, 2001). A number of empirical studies have identified a positive relationship between innovation and organizational performance (Damanpour, 1991; Damanpour and Wischncvsky, 2006; Danneels and Kleinschmidt, 2001; Gopalakrishnan, 2000).

In addition, organizational innovation in terms of research and development is used in developing new products and services (Ussahawanitchakit, 2006). Likewise, Su, Li and Su (2003) found that an increase in organizational innovation can generate significant influence on the business performance of the organization because it requires an organization to understand new markets and customer needs, which relates to meeting the requirements of the market. Therefore organizational innovation enhancement may have a direct relationship with stakeholder expectations fulfillment. In addition, the study of Lemon and Sahota (2004) suggested that organizational innovation is a key factor in relation to organizational competitiveness in a rapidly changing environment. Moreover, Albers and Brewer (2003) have stated that organizational innovation is the driving force behind an organization's survival as it encourages the integration of resources and knowledge to achieve the goals of the organization. Therefore, the following hypotheses are proposed:

Hypothesis 4a: Organizational innovation enhancement will positively relate to goal achievement excellence.

Hypothesis 4b: Organizational innovation enhancement will positively relate to stakeholder expectations fulfillment.

Hypothesis 4c: Organizational innovation enhancement will positively relate to dynamic corporate competitiveness.

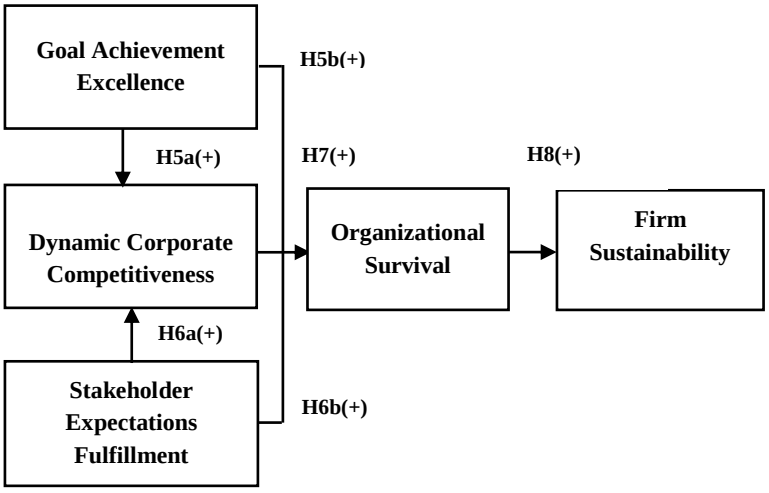
Hypothesis 4d: Organizational innovation enhancement will positively relate to organizational survival.

Hypothesis 4e: Organizational innovation enhancement will positively relate to firm sustainability.

The Effects of Strategic Renewal Capability Outcomes on Organizational Outcomes

This section investigates the relevance of the four dimensions of strategic renewal capability comprising, operational maintenance focus, environmental adaptation orientation, business development capability and organizational innovation enhancement concern on five consequences comprising goal achievement excellence, stakeholder expectations fulfillment, dynamic corporate competitiveness, organizational survival and firm sustainability.

Figure 3 The Effects of the Strategic Renewal Capability Outcomes on Organizational Outcomes



Goal Achievement Excellence

Goal achievement promotes the motivation that drives employees in organizations to improve their performance. It can be identified as an underlying driving force, internal to many organizations, that promotes efficiency and success (Kittikunchotiwut and Ussahawanitchakit, 2012). Organizational goals focus on strategies that relate to an organization achieving the objectives central to its vision and mission (Zaccaro and Klimoski, 2001). Additionally, Mouzas (2006) stated that goal achievement is related to the overall performance of the organization and includes such issues as reduction of waste, quality of work, reducing errors and saving costs. It is an outcome of effectiveness implementation of strategies focus on organizational goals.

In this research, goal achievement excellence is defined as objective of achieving organizational success, in terms of vision and mission, based on a firm's strategies to allocate appropriate resources, and thereby increase efficiencies (Kumar and Gulati, 2010; Zaccaro and Klimoski, 2001). In terms of organizational renewal, goal achievement excellence results from introducing proactive corporate strategies which facilitate innovation. On the one hand, goal achievement excellence may increase the ability of a firm to compete successfully. And on the other hand, to achieved targets or goals that are a measure of working efficiency as goal achievement relates directly to the performance of an organization. This conclusion is supported by several studies (Hatfield and Pearce, 1994; Zeira and Parker, 1995). Therefore, goal achievement may be seen as reflecting the performance of an organization. Implementing strategies to achieve goal achievement excellence emerge as appropriate strategies to be adopted by an organization in a fiercely competitive environment. Hence, achieving goals contribute to an organization's ability to be able to survive in an environment of competitive turbulence. As the academic commentators quoted appear to agree, goal achievement excellence has the capability to promote organizational survival. Accordingly, the following hypotheses are proposed:

Hypothesis 5a: Goal achievement excellence will positively relate to dynamic corporate competitiveness.

Hypothesis 5b: Goal achievement excellence will positively relate to organizational survival.

Stakeholder Expectations Fulfillment

Responding to stakeholder expectations is one of the important factors of ongoing concern to virtually every organization. The importance of a firm having the ability to respond to stakeholders expectations has been identified as critical to a firm's survival (Ravald and Christian, 1996; Wolfgang and Chacour, 2001). To be responsive an organization requires both innovation and market information in order to build the capacity to meet the expectations of stakeholders. The role of stakeholders, internal and

external to an organization, influence the abilities of the organization to be successful (Vorhies and Morgan, 2005; Sarkis, Gonzalex-Torre and Adenso-Diaz, 2010). The fulfillment of stakeholder expectations is an important variable to consider in the context of this research.

Stakeholder expectation fulfillment in this research refers to a firm's ability to respond to stakeholders needs. This is dependent on the firm understanding their needs and delivering outcomes that correspond to those needs (Johnson, Barksdale and Boles, 2003). Thus achieving effective responses to stakeholder expectations has been recognized as a dynamic capability as it confirms that an organization is reacting effectively to demands in its changing environment, and thereby creating value for the organization (Tungbunyasiri, 2013).

Previous research has demonstrated that an organization with the ability to achieve stakeholder responsiveness indicates that it is able to differentiate its products and services from those of its competitors, and this ability promotes the competitiveness of the organization (Magretta, 1998). The study of Kumar et al. (2011), supporting this conclusion, found that an organization with a focus on stakeholder expectations fulfillment is able to build a competitive advantage better than its competitors. Thus, the ability of a firm to fulfil stakeholder expectations will impact on its corporate competitiveness. Stakeholder expectations fulfillment is also associated with the sustainability and survival of an organization (Sarkis, Gonzalex-Torre and Adenso-Diaz, 2010) because firms with a high level of market orientation tend to reduce the costs of minimizing the failure of late adoption. Moreover, stakeholder responsiveness reflects the ability of an organization to deliver products. Thus, organizations with high expectations fulfillment tend to receive the benefits arising from what is termed, the first-mover advantage (Garrett, Covin and Slevin, 2009). Therefore, hypotheses are proposed as follows:

Hypothesis 6a: Stakeholder expectations fulfillment will positively relate to dynamic corporate competitiveness.

Hypothesis 6b: Stakeholder expectations fulfillment will positively relate to organizational survival.

Dynamic Corporate Competitiveness

Many scholars have indicated that corporate competitiveness is achieved by administrative efficiency, which results from a combination of utilizing different strategies. For example firms may integrate management roles and structures to make the organization more competitive (Dekluyve and Pearce, 2006). Improving efficiency and effectiveness through increased innovation promotes enhancement of corporate competitiveness (Amit and Schoemaker, 1993; Grant, 1996). As the foregoing discussion indicates, strategic maintenance and adaptation through innovation increase the competitiveness of an organization. Hence, it is proposed that maintaining corporate competitiveness is a major outcome of strategic renewal capability.

Dickson (1992) suggested that the competitiveness of an organization relates to its ability to differentiate itself from its competitors through new product development, and improvement of services and product offerings to the market. These lead to increasing the customer base and in this way to become more profitable than competitors (Thipsri and Ussahawanitchakit, 2009). As discussed, this research focuses on the ability of firms in terms of their dynamic capability characteristics. This means that the competitiveness of the organization must be sustained in rapidly changing environments (Teece, Pisano and Shuen, 1997). Therefore, the definition of dynamic corporate competitiveness is the ability of an organization to create a competitive advantage through operations that change and adapt and respond to the demands of a rapidly changing market more quickly that their competitors (Fang and Zuo, 2009).

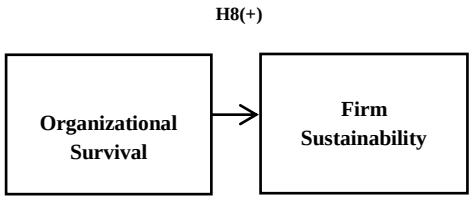
The dynamic capability theory describes the ability of a firm, in terms of its organizational dynamism to be able survive and succeed under the turbulence of changing environments (Teece, Pisano and Shuen, 1997). Organizations are able to adapt and develop continuously in changing market conditions through new product development, and improvement of service and product offerings to the market. In so doing they are able to respond to the market requirements and attract customers from their competitors. Therefore, this capability enables organizations to survive despite changes and turbulence in the market place (Thipsri and Ussahawanitchakit, 2009). Therefore, the following hypothesis is proposed:

Hypothesis 7: Dynamic corporate competitiveness will positively relate to organizational survival.

The Effects of Organizational Survival on Firm Sustainability

This section examines the relationships between organizational survival and firm sustainability. These relationships are predicted as positive relationships as depicted in Figure 4.

Figure 4 The Effects of Organizational Survival on Firm Sustainability



Organizational Survival

Organizational survival is a measure of success or failure arising from the operation of the organizations (Mata and Portugal, 2002; Persson, 2004). Many scholars realize that the importance of organizational survival is associated with the growth of an organization (Ha, 2013). Organizational survival is often dependent on the ability of the managers, when faced with an uncertain external environment, whether due to changes relating to the market, technology growth, or competitive turbulence, to respond appropriately (Claycomb, Droge and German, 2005). Thus, to be successful organizations must be able to cope with external environmental threats if they are to survive in an uncertain external environment. In contrast, Williamson (1985) argues that the survival of an organization depends on the efficiency of its management processes and organizational designs. However, Aldrich and Fiol (1994), in contrast to Claycomb, Droge and German (2005), elaborated that organizational survival is associated with socio-political legitimacy. Therefore, this suggests that an organization's operations must remain in harmony with its external environment, both economic and political.

The focus of this research is organizational survival in terms of the ability of an organization to adjust to suit their environments. Thus, organizational survival in this research refers to the ability of organizations to create and maintain their stability by managing uncertain competitive environments to ensure long-term survival (Persson, 2004). In addition, the business operations of organizations, able to survive in an uncertain competitive environment, are more likely to increase their financial returns, by such strategies as enhancing their products and services and by maintaining their market share. This may also be achieved by improving management systems and processes through high levels of innovation (Esteve-Pérez and Manez-Castillejo, 2008). Organizational survival depends on the ability of firms to respond to the diverse needs of the market, by maintaining operational efficiency that includes adapting to technology growth. To conclude, organizational survival depends on a firm maintaining its sustainability (Mozilo, 2001). Therefore, a hypothesis is proposed as follows:

Hypothesis 8: Organizational survival will positively relate to firm sustainability

Firm Sustainability

Firm sustainability is the goal of an organization in relation to its long-term business prospects. On the one hand it is driven by resources and strategies, including the administration of the organization (Wong and Avery, 2009). On the other hand, firm sustainability is a measure for evaluating the achievement of the operation of the organization (Stanley, Hult and Olson, 2010). More importantly, firm sustainability turns on achieving goals, both in the short term and the long term, for example, increases in sales growth, profitability and market share over time. Firm sustainability also reflects the survival and renewal abilities of an organization which in turn may depend on its dynamic capabilities in a rapidly changing environment (Ussahawanitchakit, 2007).

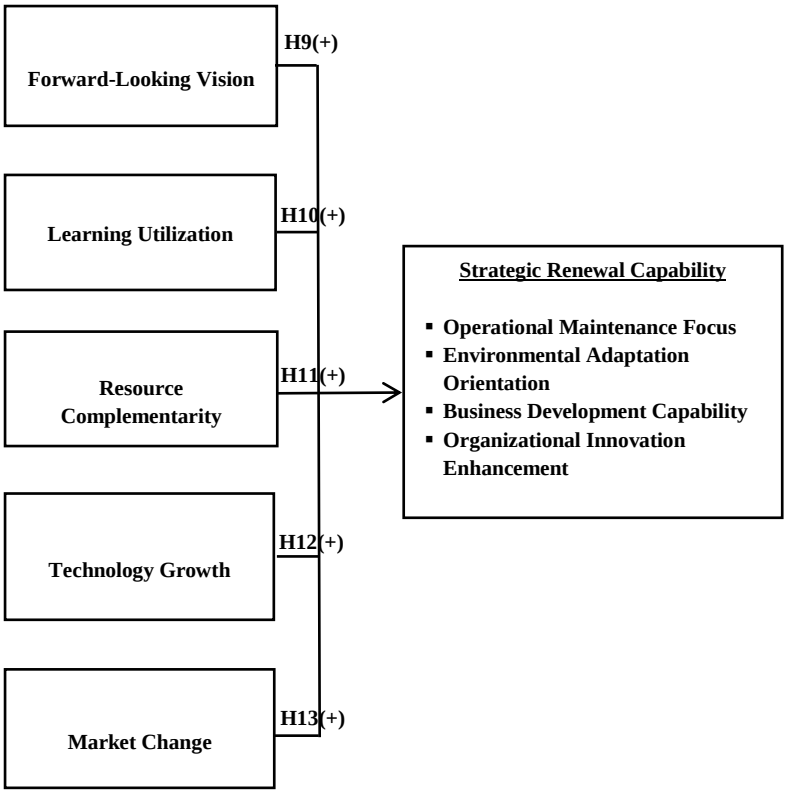
In this research, a firm's sustainability may be defined in terms of a continuous increase of business income and of profitability, improved product and service quality and growth of market share, relative to past operating results. These factors are related to expanding business growth, increasing shareholder value, corporate prestige and

reputation, and correspondingly improved customer relationships (Szekely and Knirsch, 2005). However, firm sustainability correlates to organizational survival; yet in this research, both are seen as distinct. Organizational survival focuses on the long-term; the ability to remain in business over time in a competitive environment. However firm sustainability focuses on the ability to expand and grow a business; relating its present to its past operating results. Firm sustainability is determined by the firm's ability to survive in business and to generate business growth. Hence, firm sustainability is affected by organizational survival.

The Effect of the Antecedent Variables on Strategic Renewal Capability

This section outlines the effect of the five antecedents, the independent variables, including forward-looking vision, learning utilization, resources complementarity, technology growth and market change on the four dimensions of strategic renewal capability that consist of: operational maintenance focus, environmental adaptation orientation, business development capability and organizational innovation enhancement as presented in Figure 5 below.

Figure 5 The Effects of Antecedents on Strategic Renewal Capability



Forward-looking vision

The vision of the senior managers is a key factor influencing organizational change (Bonn and Fisher, 2011). Barr, Stimpert and Huff (1992) stated that although firms may operate in the same environment, they may implement different strategies for organizational change due to the vision of their senior managers. Therefore, the vision of managers is critical to organizational renewal because they inevitably direct the organization in response to their assessment of the operating environment. In addition, the forward-looking vision is defined as a clear guideline relating to the operations of the organization in the future. As discussed by Cooper and Cronin (2000) and Meadan et al. (2010) planning improves performance and influences innovation.

In this research, forward-looking vision refers to setting guidelines for the future operation of an organization to ensure its long term success. Vision must be formulated by senior managers to ensure that a firm has the ability to adapt and develop its future growth potentials. In addition, a forward-looking vision must be based on a clear conception of the present situation of the organization, and its future objectives that focus on its long term goals.

As has been discussed, forward-looking vision is associated with effective organization renewal and accordingly it must take account of a wide range of possibilities in relation to future organizational change, and the key factors that are identified as promoting organizational development (Conger, 1989). Likewise, Price (2001) has suggested that forward-looking vision contributes to the motivation of employees who implement change. Forward-looking vision clearly influences the future operations of an organization and hence enhances capability for organizational renewal. Therefore, the following hypotheses are proposed:

Hypothesis 9a: Forward-looking vision will positively relate to operational maintenance focus.

Hypothesis 9b: Forward-looking vision will positively relate to environmental adaptation orientation.

Hypothesis 9c: Forward-looking vision will positively relate to business development capability.

Hypothesis 9d: Forward-looking vision will positively relate to organizational innovation enhancement.

Learning Utilization

The capability of an organization to learn from its past, its learning ability, is recognized as an important benefit to overall business performance (Nahapiet and Ghoshal, 1998). It is identified as an important resource of an organization and brings with it the ability of the organization to achieve a competitive advantage (Grant, 1996; Kogut and Zander, 1992). In addition, several studies have suggested that the capability of an organization to learn from its past leads to performance enhancements (Appleyard, 1996; Decarolis and Deeds, 1999). Learning ability has also been considered as a capability that is essential to enable response to changes in the internal and external environments and to build and maintain competitive advantages (Teece, Pisano and Shuen, 1997). Thus, utilization of learning is an important capability for continuous improvements and for renews the organization in accordance with the needs of an uncertain environment (Jaw and Liu, 2003).

The learning capability of an organization consists of two basic purposes: being able to explore and exploit knowledge (March, 1991). The first, "explore knowledge," refers to the ability to acquire knowledge inside and outside the firm, which is crucial and useful. The other, to "exploit knowledge," refers to the ability of an organization to develop previous knowledge or combine it with new knowledge and make it useful for the firm (Hsu and Fang, 2009; Zahra and George, 2002). In this research the focus is on learning capability that enables a firm to exploit knowledge, as stated above, to enhance previous knowledge and combine it with new knowledge, which is related to organization renewal capability. Thus, this form of learning utilization can be defined as an ability to take advantage of organizational learning to create and develop the cognitive abilities to achieve the objectives of the firm. This also

includes knowledge distribution, apportionment, maintenance and integration having the potential to improve a firm's capabilities.

Numerous studies have shown that learning utilization promotes organizational performance improvement (Egan, Yang and Bartlett, 2004; Ellinger et al., 2002). Dodgeson (1993) stated that learning utilization improves an organization's ability to promote innovation activity efficiency, efficacy and capabilities. Likewise, a study of Rothaermel and Deeds (2004) demonstrated that promoting learning capability in a firm positively affects new product development and innovation. In addition, scholars have identified a link between learning and adaptation (Cheng, Niu and Niu, 2014). March (1991) which suggested that the benefits of learning should enable firms to enhance their ability for relating to improved adaptation. Moreover, learning is a necessary step in the dynamic capabilities of the organization. Teece, Pisano and Shuen (1997) stated that strategic renewal capability is a dynamic capability. Therefore, learning utilization is seen to promote strategic renewal capability. Therefore, the following hypotheses are proposed:

Hypothesis 10a: Learning utilization will positively relate to operational maintenance focus.

Hypothesis 10b: Learning utilization will positively relate to environmental adaptation orientation.

Hypothesis 10c: Learning utilization will positively relate to business development capability.

Hypothesis 10d: Learning utilization will positively relate to organizational innovation enhancement.

Resource Complementarity

The resource-based view of the firm emphasizes the importance of a firm's resources as a key factor for organizational capability (Grant, 1991). Barney (1991) indicated that the capability of an organization is dependent on a combination of the availability of valuable resources and the strategies of the organization. Hence, the organization requires resource complementarity to establish organizational capability.

In addition, resource complementarity supports the operation of organizational business processes. On the one hand it increases the opportunities for organizational changes and facilitates the growth of a firm (Bruton and Rubanik, 2002). On the other hand, resource complementarity promotes the security of an organization has suggested that an organization needs to have resource complementarity to deal with the impacts of economic turbulence. If an organization has sufficient resource complementarity it will be better able to survive in a turbulent environment. This ability to survive due to resource complementarity is associated with organizational renewal. Therefore, organizational renewal capability in a firm is positively related to its resources complementarity.

From the perspective of strategic renewal capability, resource complementarity refers to the availability and the sufficiency of the resources, controlled by the organization which will be a determinant of organizational renewal efficacy. In this context the resources of the organization may be both a tangible or intangible assets. Previous research has investigated the concept of resource complementarity in terms of renewal capability, Junell and Ståhle (2011) who studied it as a measurement tool for strategic renewal capability. The results of these studies suggest that loss of resources by a firm may result in it being unable to adapt quickly. Slow adaptation will affect the capability of a firm to achieve continuous and the mature development. This leads to the conclusion that the ability of a firm to achieve effective depends on the availability of resources; resources complementarity is directly related to the ability of organizational adaptation. Moreover, resources complementarity affects the capability to create new products, new services and new processes. In other words, resources complementarity affects organizational innovation enhancement (Kratzer, Leenders and Engelen, 2008). Thus, it is clear that resources complementarity impacts strategic renewal capability. Therefore, the following hypotheses are proposed:

Hypothesis 11a: Resource complementarity will positively relate to operational maintenance focus.

Hypothesis 11b: Resource complementarity will positively relate to environmental adaptation orientation.

Hypothesis 11c: Resource complementarity will positively relate to business development capability.

Hypothesis 11d: Resource complementarity will positively relate to organizational innovation enhancement.

Technology Growth

The growth of technology is an important factor which organizations cannot afford to ignore especially in relation to their business operations (Syers, Ussahawanitchakit and Jhundra-indra, 2012). Technology growth is associated with success of organizations. Technological growth increases organizational performance through the support mechanisms and facilitation that it provides (Baroni and Araujo, 2001; Perrott, 2007). In addition, technological growth generates new challenges and opportunities for new value propositions including the creation of responses to the needs of market diversity (Jirawuttinunt and Ussahawanitchakit, 2011). Hence, technology growth is expected to encourage organizational realignment for renewal.

In this research, technology growth is defined as the continuous change or development of technology that affects the changes in organizational operations. Firms adopt technological processes to enhance operational strategies to synchronize their operations with technological environmental changes (Atuahene-Gima and Murray, 2004, Jaworski and Kohli, 1993). It is the through a recognition of the advances and the speed of continuous technological growth that organizations that can adopt technology to improve their functional processes to promote survival and success (Glazer and Weiss, 1993; Jumpapang and Ussahawanitchakit, 2010).

A number of previous studies agree that the growth of technology as an external factor affects organizational change (Prašnikar et al., 2008; Syers, Ussahawanitchakit and Jhundra-indra, 2012). To deal with rapid technology growth, organizations may need to modify themselves through adaptation and development to keep pace with technological changes in their operating environments; an aspect of organizational renewal (Jumpapang and Ussahawanitchakit, 2010; Rudez and Mihalic, 2007). In addition, the growth of technology influences the development of new

services and processes, and enhances innovation within organizations (Seleim and Khali, 2007). Hence, technology growth stimulates organization's capability for renewal.

Hypothesis 12a: Technology growth will positively relate to operational maintenance focus.

Hypothesis 12b: Technology growth will positively relate to environmental adaptation orientation.

Hypothesis 12c: Technology growth will positively relate to business development capability.

Hypothesis 12d: Technology growth will positively relate to organizational innovation enhancement.

Market Change

Market change is widely accepted as one of the important external factors influencing organizational operations (Duncan, 1972; Sookaneknun and Ussahawanitchakit, 2013). Many factors may bring about market change. Changes in politics, technology, culture, society and economy may collectively and individually, directly and indirectly, and more often than not cumulatively, affect the behavior of organizational stakeholders. In addition, market changes may offer either opportunities or threats relative to the survival and the growth of an organization (Sookaneknun and Ussahawanitchakit, 2013). Hence, organizations need to be responsive to market dynamics in order to understand how to adapt to market changes and create renewal capability to ensure their survival and the sustainability as market environments change.

In this research, market change is defined as the unstable, rapidly and continual modification of the surroundings of business operations, which are external factors affecting the adjustment of the organization to its environment. The environment is subject to political, economic and societal changes, to name but a few. In addition, the behavior of stakeholders may have a significant influence on the business operations of organizations (Ashill and Jobber, 1999). The complexity of market change is amplified by its unpredictability, which again may have either a positive or a negative impact on organizational business (Lissack and Gunz, 2005). For example, changing attitudes of

customers relative to purchasing behavior may be a consequence of either economic change or social change, or both.

The contingency theory explains why organizations need to adapt to as environments change. This theory explains that external factors are important to the survival of organizations as changes in the external environment impact on organizational performance. Hence, organizations must have a capability for adaptation and development through the processes of organization renewal (Gordon and Miller, 1976; Anderson and Lanen, 1999). As stated above, in terms of contingency theory, market change is an external factor necessitating the need for organizations to have maintenance, adaptation, development and innovation to survive and achieve sustainable development.

Hypothesis 13a: Market change will positively relate to operational maintenance focus.

Hypothesis 13b: Market change will positively relate to environmental adaptation orientation.

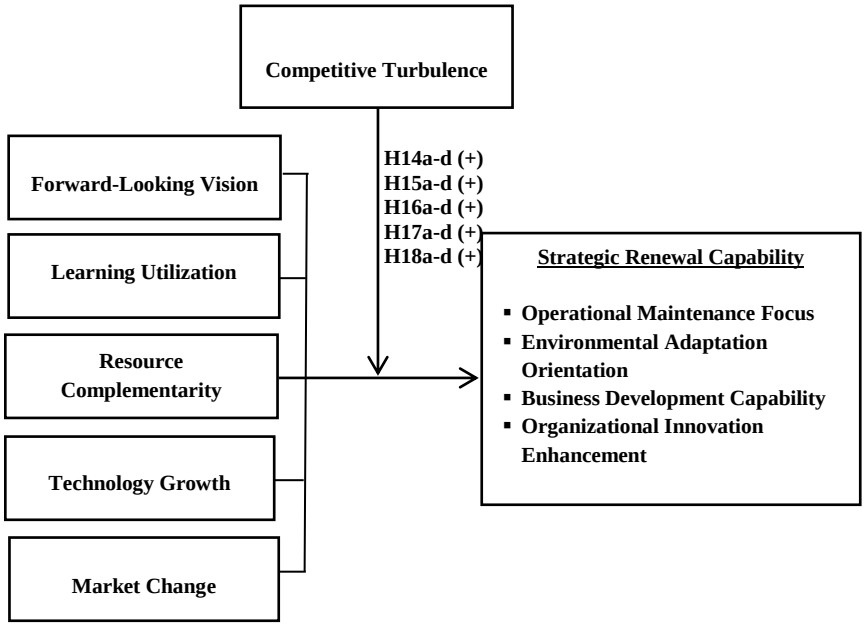
Hypothesis 13c: Market change will positively relate to business development capability.

Hypothesis 13d: Market change will positively relate to organizational innovation enhancement.

Moderating Effects of Competitive Turbulence on the Relationships among Antecedents and Strategic Renewal Capability

This section explores the impacts of the moderating effects of competitive turbulence relationships as they influence the five antecedents (forward-looking vision, learning utilization, resources complementarity, technology growth and market change) on the four dimensions of strategic renewal capability (operational maintenance focus, environmental adaptation orientation, business development capability and organizational innovation enhancement) as presented in Figure 6.

Figure 6 The Roles of Competitive Turbulence as a Moderator



Competitive Turbulence

Competitive turbulence has been identified as an important external factor in the operations of organizations (Perry and Towers, 2009). This is due to the increasing number of competitors that cause organizations to face increasingly radical business competition (Gumusluoglu and Ilsev, 2009). In addition, the rapidly changing competitive environment plays a critical role to the success of firms (Gumusluoglu and Ilsev, 2009; Palmer, Wright and Powers, 2001). Hence, competitive turbulence imposes pressure on organizations to develop business strategies for survival (Perry and Towers, 2009). Likewise, competitive turbulence may be the stimulant for creating the renewal capabilities of organizations.

Competitive turbulence in this research refers to the degree of ambiguity and complexity of the competitive elements in the environment, which is caused by the increase in the number of competitors and the unpredictability of their behavior which creates unexpected competitive turbulence. This leads to the conclusion that competitive

turbulence creates uncertainty due to its unpredictability (Meijer, 2010; Thipsri and Ussahawanitchakit, 2009).

It is apparent that it is very difficult for organizations to handle all aspects of competitive turbulence which by its very nature is largely uncontrollable. Consequently, to survive and to thrive in an organization needs to improve its ability to have maintenance, adaptation and development to survive in highly competitive environments. In addition, organizations must try to maintain and increase market share through innovation that responds to the needs of customers (Fuentes, Albacete and Liorens, 2004).

Studies relating to the impact of competitive turbulence on the renewal capability of firms found that when they confront a more competitively turbulent environment they react by increasing value-maximizing capability configurations that provide the fundamental basis for the implementation of renewal capabilities (Wilden and Gudergan, 2015). The frequent revision of dynamic capabilities enhances their impact in various ways including learning responses and resource management (Moorman and Miner 1997). The more frequently firms use sensing and reconfiguring processes, the greater their renewal capabilities should be, especially if they operate in turbulent environments.

Prior research at this aggregate level implies that turbulent environments demand timely responses; firms need to maintain the alignment of their renewal capabilities with their external environment (Baum and Wally2003; Glazer and Weiss 1993). Thus, learning utilization and resource complementarity should reveal a stronger positive relationship with strategic renewal capability where firms face turbulent competition, compared to their necessary responses in more stable environments. Also, in managing competitive turbulence firms tend to be influenced growth in technology and market changes which increase the importance of strategic renewal capability (Droge et al., 2008; Narasimhan et al., 2006). With reference to the above it is hypothesized that competitive turbulence is able to influence the dimensions of strategic renewal capability (Ståhle, Ståhle and Pöyhönen, 2003; Pöyhönen, 2004).

Hypothesis 14a: Competitive turbulence positively moderates the relationships between forward-looking vision and operational maintenance focus.

Hypothesis 14b: Competitive turbulence positively moderates the relationships between forward-looking vision and environmental adaptation orientation.

Hypothesis 14c: Competitive turbulence positively moderates the relationships between forward-looking vision and business development capability.

Hypothesis 14d: Competitive turbulence positively moderates the relationships between forward-looking vision and organizational innovation enhancement.

Hypothesis 15a: Competitive turbulence positively moderates the relationships between learning utilization and operational maintenance focus.

Hypothesis 15b: Competitive turbulence positively moderates the relationships between learning utilization and environmental adaptation orientation.

Hypothesis 15c: Competitive turbulence positively moderates the relationships between learning utilization and business development capability.

Hypothesis 15d: Competitive turbulence positively moderates the relationships between learning utilization and organizational innovation enhancement.

Hypothesis 16a: Competitive turbulence positively moderates the relationships between resource complementarity and operational maintenance focus.

Hypothesis 16b: Competitive turbulence positively moderates the relationships between resource complementarity and environmental adaptation orientation.

Hypothesis 16c: Competitive turbulence positively moderates the relationships between resource complementarity and business development capability.

Hypothesis 16d: Competitive turbulence positively moderates the relationships between resource complementarity and organizational innovation enhancement.

Hypothesis 17a: Competitive turbulence positively moderates the relationships between technology growth and operational maintenance focus.

Hypothesis 17b: Competitive turbulence positively moderates the relationships between technology growth and environmental adaptation orientation.

Hypothesis 17c: Competitive turbulence positively moderates the relationships between technology growth and business development capability.

Hypothesis 17d: Competitive turbulence positively moderates the relationships between technology growth and organizational innovation enhancement.

Hypothesis 18a: Competitive turbulence positively moderates the relationships between market change and operational maintenance focus.

Hypothesis 18b: Competitive turbulence positively moderates the relationships between market change and environmental adaptation orientation.

Hypothesis 18c: Competitive turbulence positively moderates the relationships between market change and business development capability.

Hypothesis 18d: Competitive turbulence positively moderates the relationships between market change and organizational innovation enhancement.

Summary

This chapter has outlined the conceptualization of a model of strategic renewal capability and has delineated the definitions and relationships with and between the relative variables. Two theories have been employed. The dynamic capability theory and the contingency theory are discussed to support the relationships among the variables. The conceptual model illustrates the antecedents, consequences and moderators of strategic renewal capability. In addition, 69 testable hypotheses have been proposed and are summarized in Table 3 below.

The next chapter will present the research methods used in this research, including the population and sample selection processes, data collection procedures, data measurement with respect to each variable, and the development and verification of the survey instrument by testing reliability and validity and the statistics and equations used to test the hypotheses.

Table 3 Summary of Hypothesized Relationships

Hypotheses	Description of Hypothesized Relationships
H1a	Operational maintenance focus will positively relate to goal achievement excellence.
H1b	Operational maintenance focus will positively relate to stakeholder expectations fulfillment.
H1c	Operational maintenance focus will positively relate to dynamic corporate competitiveness.
H1d	Operational maintenance focus will positively relate to organizational survival.
H1e	Operational maintenance focus will positively relate to firm sustainability.
H2a	Environmental adaptation orientation will positively relate to goal achievement excellence.
H2b	Environmental adaptation orientation will positively relate to stakeholder expectations fulfillment.
H2c	Environmental adaptation orientation will positively relate to dynamic corporate competitiveness.
H2d	Environmental adaptation orientation will positively relate to organizational survival
H2e	Environmental adaptation will positively relate to firm sustainability.
H3a	Business development capability will positively relate to goal achievement excellence.
H3b	Business development capability will positively relate to stakeholder expectations fulfillment.
H3c	Business development capability will positively relate to dynamic corporate competitiveness.
H3d	Business development capability will positively relate to organizational survival.
H3e	Business development capability will positively relate to firm sustainability.

Table 3 Summary of Hypothesized Relationships (continued)

Hypotheses	Description of Hypothesized Relationships
H4a	Organizational innovation enhancement will positively relate to goal achievement excellence.
H4b	Organizational innovation enhancement will positively relate to stakeholder expectations fulfillment.
H4c	Organizational innovation enhancement will positively relate to dynamic corporate competitiveness.
H4d	Organizational innovation enhancement will positively relate to organizational survival.
H4e	Organizational innovation enhancement will positively relate to firm sustainability.
H5a	Goal achievement excellence will positively relate to dynamic corporate competitiveness.
H5b	Goal achievement excellence will positively relate to organizational survival.
H6a	Stakeholder expectations fulfillment will positively relate to dynamic corporate competitiveness.
H6b	Stakeholder expectations fulfillment will positively relate to organizational survival.
H7	Dynamic corporate competitiveness will positively relate to organizational survival.
H8	Organizational survival will positively relate to organizational survival.
H9a	Forward-looking vision will positively relate to operational maintenance focus.
H9b	Forward-looking vision will positively relate to environmental adaptation orientation.

Table 3 Summary of Hypothesized Relationships (continued)

Hypotheses	Description of Hypothesized Relationships
H9c	Forward-looking vision will positively relate to business development capability.
H9d	Forward-looking vision will positively relate to organizational innovation enhancement.
H10a	Learning utilization will positively relate to operational maintenance focus.
H10b	Learning utilization will positively relate to environmental adaptation orientation.
H10c	Learning utilization will positively relate to business development capability.
H10d	Learning utilization will positively relate to organizational innovation enhancement.
H11a	Resource complementarity will positively relate to operational maintenance focus.
H11b	Resource complementarity will positively relate to environmental adaptation orientation.
H11c	Resource complementarity will positively relate to business development capability.
H11d	Resource complementarity will positively relate to organizational innovation enhancement.
H12a	Technology growth will positively relate to operational maintenance focus.
H12b	Technology growth will positively relate to environmental adaptation orientation.
H12c	Technology growth will positively relate to business development capability.
H12d	Technology growth will positively relate to organizational innovation enhancement.

Table 3 Summary of Hypothesized Relationships (continued)

Hypotheses	Description of Hypothesized Relationships
H13a	Market change will positively relate to operational maintenance focus.
H13b	Market change will positively relate to environmental adaptation orientation.
H13c	Market change will positively relate to business development capability.
H13d	Market change will positively relate to organizational innovation enhancement.
H14a	Competitive turbulence positively moderates the relationships between forward-looking vision and operational maintenance focus.
H14b	Competitive turbulence positively moderates the relationships between forward-looking vision and environmental adaptation orientation.
H14c	Competitive turbulence positively moderates the relationships between forward-looking vision and business development capability.
H14d	Competitive turbulence positively moderates the relationships between forward-looking vision and organizational innovation enhancement.
H15a	Competitive turbulence positively moderates the relationships between learning utilization and operational maintenance focus.
H15b	Competitive turbulence positively moderates the relationships between learning utilization and environmental adaptation orientation.
H15c	Competitive turbulence positively moderates the relationships between learning utilization and business development capability.
H15d	Competitive turbulence positively moderates the relationships between learning utilization and organizational innovation enhancement.
H16a	Competitive turbulence positively moderates the relationships between resource complementarity and operational maintenance focus.
H16b	Competitive turbulence positively moderates the relationships between resource complementarity and environmental adaptation orientation.

Table 3 Summary of Hypothesized Relationships (continued)

Hypotheses	Description of Hypothesized Relationships
H16c	Competitive turbulence positively moderates the relationships between resource complementarity and business development capability.
H16d	Competitive turbulence positively moderates the relationships between resource complementarity and organizational innovation enhancement.
H17a	Competitive turbulence positively moderates the relationships between technology growth and operational maintenance focus.
H17b	Competitive turbulence positively moderates the relationships between technology growth and environmental adaptation orientation.
H17c	Competitive turbulence positively moderates the relationships between technology growth and business development capability.
H17d	Competitive turbulence positively moderates the relationships between technology growth and organizational innovation enhancement.
H18a	Competitive turbulence positively moderates the relationships between market change and operational maintenance focus.
H18b	Competitive turbulence positively moderates the relationships between market change and environmental adaptation orientation.
H18c	Competitive turbulence positively moderates the relationships between market change and business development capability.
H18d	Competitive turbulence positively moderates the relationships between market change and organizational innovation enhancement.

CHAPTER III

RESEARCH METHODS

The previous chapter discusses the literature relevant to conceptualizations of strategic renewal capability and related constructs. In addition, the theoretical foundations, the conceptual model, the definitions of all constructs, and the development of testable hypotheses are presented. This chapter details the research methods which are organized into four sections. The first section describes the sample selection and data collection procedures, comprising population and sample, data collection. The second section elaborates on the variable measurements of each construct. The third section describes the development and verification of the survey instruments by means of testing the validity and reliability, and the testing for non-response bias. The fourth section presents the statistics and equations utilized to test the hypotheses. This chapter concludes with a summary table of definitions and operational variables relating to the constructs that are presented.

Sample Selection and Data Collection Procedure

Population and Sample

This research selected software businesses in Thailand as the target population for sampling. The population was obtained from the list on the database of the Software Industry Promotion Agency (SIPA) drawn in March, 2016 (http://www.sipa.or.th) having a total of 855 listed firms. All of these firms are identified as entrepreneurial and as such were recipients of investment promotion grants from the Thai government. Thai government policy proactively encourages investments in entrepreneurial enterprises to encourage the growth and availability of the infrastructure for the development of necessary resources that promote the development of business software. In addition, software businesses have also been targeted for investigation for three additional reasons. Firstly, the entrepreneurial characteristics of software businesses are appropriate to a discussion of strategic renewal capability as they operate in a highly competitive environment and must focus on firm survival under competitive turbulence

and environmental uncertainty. Secondly, software businesses need to have continual maintenance, adaptation, development and innovation to achieve sustainable development. Thirdly, the software businesses in Thailand have exhibited significant growth potential and are presently expanding continuously in Thailand. A report published by the Software Industry Promote Agency indicates that the value of Thailand's software market has expanded a rate of 9.4 percent in 2015 from a year earlier, and predicts that the value of software production will continue to grow at a rate of 11.1percent in 2016 and 12.8percent in 2017 (http://www.sipa.or.th/th/articles). Therefore, as appears, software businesses exemplify firms that need to have the capability of organizational renewal if they are to survive and maintain sustainable development in a global context. Furthermore, review of previous research indicates that there have been few, in depth, empirical studies of organizational renewal capability in relation to software businesses in Thailand. On this basis in this research the sample size examined, includes all firms in the selected population. A convenience sampling technique was adopted in this research and an appropriate sample size was calculated and using Yamane (1967) simplified formula. This formula is used to calculate the sample size for a population with a 95 percent confidence level and a 5 percent sample error. The calculation of the sample sizes is as follows.

$$n = N / (1+N(e^2))$$

By n = calculated amount of sample size

N = number of population

e = allowable error

The values were set for the formula:

N = 855

e = 0.05

$n = 855 / (1+855(0.05^2))$

n = 272.50

Based on this simplified formula, an appropriate sample size is 273 firms. However, it proved difficult to receive a 100 percent response rate using a mail-out data collection method. As reported in the literature response rates to survey questionnaires that are mailed out may normally produce no more than a 20 percent response rate, a rate which is normally considered acceptable, and satisfactory for subsequent analysis (Aaker, Kumar and Day, 2001). Thus, the following formula is used to calculate the sample sizes for a population:

$$n = (273 \times 100)/ 20$$
$$n = 1,365$$

It is calculated that 1,365 questionnaires are required to receive a sample size of 295. However, in this research the total target population is only 855. Hence, the whole population was selected, to receive mail-out questionnaires to be used for hypothesis testing. The questionnaires were mailed directly to all 855 firms at the addresses shown on the data base referred to above. Furthermore, the chief executive officer (CEO) or executive director of each firm was considered as the appropriate key informant.

Accordingly 855 questionnaires were mailed to respondent firms, and a period of eight weeks was allowed to receive replies, before a follow up mail-out was undertaken to non-respondents**.** It was found that 172 surveys were returned unclaimed and hence rejected as the firms had either ceased to operate or had moved to another (unknown) location. These undeliverable surveys were removed from the study. Consequently 683 surveys remained valid for research purposes, and of these 163 firms responded. However, of these, seven surveys were incomplete, and were discarded leaving a balance of 156 completed surveys that were usable for purposes of analysis. This yields a calculated response rate of approximately 22.84 percent. According to Aaker, Kumar and Day (2001), the effective response rate for a mail-out survey, without an appropriate follow-up procedure, should be more than 20 percent a range that is considered acceptable for data analysis. In summary, the details of questionnaire mailings are presented in Table 4.

Table 4 Details of Questionnaire Mailings

Details	Numbers
Mailed Questionnaires	855
Undelivered Questionnaires	172
Valid Questionnaires Mailed	683
Received Questionnaires	163
Unusable Questionnaires	7
Usable Questionnaires	156
Response Rate (156/683) x 100	22.84%

Data Collection

In this research, mail-out questionnaires were used as the main data collection instrument as this was considered the best method of gathering data from a wide geographical area (Neuman, 2006). In formulating the questions in the questionnaire there was reliance on several sources drawn from previous studies, and adapted from the relevant literature and definitions. The basis for calibration of responses was independently verified by two experts as detailed in Appendix G. Senior managers in the respective software businesses, comprised in the target population, were selected as key informants as they have responsibility for the day to day operation of their firms. All the questionnaires were sent by mail, and it was estimated that it would take six to eight weeks to obtain responses. After eight weeks a follow up questionnaire was mailed out to non-respondents.

The questionnaires comprised seven separate sections. The first of which requested personal information of the respondent, such as gender, age, marital status, level of education, working experience, average revenues per month and current position. The second section focused questions regarding the respondent firm's characteristics such as business entity, business type, nature of production, working capital, number of full time employees, the period of time in business, and average annual income. The third section asks respondents to evaluate their strategic renewal capability. In the fourth section, respondents were asked to evaluate their assessment of

the consequences of strategic renewal capability in terms of goal achievement excellence, stakeholder expectations fulfillment, dynamic corporate competitiveness, organizational survival and firm sustainability. The fifth section asked the respondents to assess the internal factors that they considered influence strategic renewal capability comprising forward-looking vision, learning utilization and resources complementarity. The sixth section invited the respondents' evaluation of the external factors that affect strategic renewal capability, including technology growth, market change and competitive turbulence. The final part of the questionnaire comprised an open-ended question inviting suggestions from each respondent relating to any other aspects of renewal capability, not mentioned in the survey questionnaire, that they considered relevant to their firm. A Five-point Likert scale (1 = strongly disagree to 5 = strongly agree) was used for each item in sections three to six. Totally, there are 69 items in the questionnaire. This questionnaire is attached in the Appendix E (Thai) and F (English).

Measurements

In this research, the measurement and evaluation of responses have been developed from several sources, including the relevant literature, definition of terms, and prior research instruments. Each construct in the conceptual model is measured against multiple items. According to Neuman (2006), the development of measurements of each construct is dispersed over multiple items because multiple items are able to cover a wider range of definitions of each variable and can improve reliability. In addition, because all constructs in this research are abstract, they cannot be measured directly. The use of multiple items to measure abstract constructs is the one of the methods for solving this situation (Churchill, 1979). Each construct is rated on a five-point Likert scale (1 = strongly disagree, to 5 = strongly agree).

Dependent Variable

Firm sustainability

Firm sustainability is the measure for evaluating the achievement of the operation of the organization (Stanley, Hult and Olson, 2010) which focuses on the achievement of continuous incremental growth such as sales growth, profitability and

market share when compared with operating results in the past. It also includes providing outstanding services over competitors and having a reputation that is accepted by customers. To measure firm sustainability, five items in the questionnaire were adapted from a study by Phokha and Ussahawanitchakit (2011).

Independent Variables

The independent variable represents the core construct of the research. In this research, strategic renewal capability is an independent variable that consists of four dimensions: operational maintenance focus, environmental adaptation orientation, business development capability and organizational innovation enhancement. These dimensions reflect renewal capability through the operation of the organization. Each dimension is separately measured using its definition as follows.

Operational maintenance focus

Operational maintenance focus is the treatment of the efficiency of organizational operation over time (Pöyhönen, 2004). It is assessed by activities of the organization that focus on maintenance knowledge, monitoring of knowledge, data preservation and taking advantage of the organizational capabilities over time. Operational maintenance focus is measured by five new scale, five items in the questionnaire were developed from the literature.

Environmental adaptation orientation

Environmental adaptation orientation is evaluated by the degree of specific capability to adjust and respond to environmental change; and the organization uses this ability to build both survival and competitiveness to bring organizational success (Lee, 2001). It is measured by activities involving modification, adaptation, and flexibility of policy and operations under a changing environment of an organization. Four items in the questionnaire were adapted from a study by Chankaew and Ussahawanitchakit (2011).

Business development capability

Business development capability is assessed by the level of the process about the potential creation for organizational growth (Sorensen 2012). It is associated with the development of market channels, products and relationships with stakeholders (Allan Gibb, 2006). Business development capability is measured by a five-item new scale which involves improving processes, expanding markets and developing products, with the objective of increasing quality and reducing waste.

Organizational innovation enhancement

Organizational innovation enhancement refers to the development or adoption of innovation in both style technology innovation and management innovation in business operations (Damanpour and Wischnevsky, 2006). Innovation relates to new processes, new services, and new products created by an organization. Organizational innovation enhancement was assessed using four items in the questionnaire adapted from the research of Pongpearchan and Ussahawanitchakit (2011).

Mediating Variables

For the purposes of this research, goal achievement excellence, stakeholder expectations fulfillment, dynamic corporate competitiveness and organizational survival are mediating variables of organizational renewal capability. The measurement of each variable is detailed as follows.

Goal achievement excellence

Goal achievement excellence is defined as the ability to achieve the objectives of the organization from the success of implementation of the work plan in line with the organization's mission, vision and strategy (Zaccaro and Klimoski, 2001). The measurement of goal achievement excellence is related to the overall performance of the organization consisting of the reduction of waste, quality of work, reducing errors, and saving costs. To assess levels of goal achievement excellence, four items in the questionnaire were developed from the definition of terms and the literature.

Stakeholder expectations fulfillment

Stakeholder expectations fulfillment is measured as the degree by which a firm accurately responds to the demands of those who are in both inside and outside the organization, and by using analysis to understand and identify their requirements. It involves the capabilities of the organization to fulfill the requirements of those stakeholders who affect the ability and success of the organization (Johnson, Barksdale and Boles, 2003). The assessment of stakeholder expectations fulfillment was based on a four items in the questionnaire developed from the literature and definitions.

Dynamic corporate competitiveness

Dynamic corporate competitiveness is assessed by the level of ability of the organization to create a competitive advantage from operations that can change and adapt faster than the others, and respond to the demands of a rapidly changing market (Fang and Zuo, 2009). The assessment of dynamic corporate competitiveness was based on a five items in the questionnaire developed from the literature and definitions.

Organizational survival

Organizational survival refers to the ability to create the stability of organizational business by managing an uncertain competitive environment, and continuing to exist in long-term business during a period of time (Persson, 2004). It can be measured by the perception about the survival of the business in the long term, business overall outcome, recognition by customers, retention of old customers and business administration under the risks (Esteve-Perez and Manez-Castillejo, 2008). The assessment of responses in relation to organizational survival was based on a five items in the questionnaire developed from the literature and definitions.

Antecedent Variables

The antecedents of strategic renewal capability consist of five internal and external variables: forward-looking vision, learning utilization, resources complementarity, technology growth, and market change. Each variable is separately measured by items developed from its definition, which is detailed as follows.

Forward-looking vision

Forward-looking vision is measured by potential goals assigned to the operation for the future success of the organization. It is committed to promoting the ability to adapt and develop organizational growth by powering change in the organization from executives for the future image of the business. The measurements are based on five new items in the questionnaire developed from the literature and the definitions of terms.

Learning utilization

Learning utilization is defined as the ability to take advantage of organizational learning to create and develop cognitive abilities to achieve the objectives of the firm. It can be measured by the degree of knowledge distribution, apportionment, maintenance and integration for a potential to improve a firm's capabilities. The measurement of learning utilization was based on five new items in the questionnaire developed from the literature and the definitions of terms.

Resource complementarity

Resource complementarity refers to the completeness and the sufficiency of the resource that is controlled by the organization, which resource may be either a tangible or an intangible asset. It is assessed by potential capabilities to support the work of the business process to achieve corporate targets (Pansuppawatt and Ussahawanitchakit, 2011: Ray, Barney and Muhanna, 2004). The measurement of resource complementarity was adapted from research published by Tungbunyasiri and Ussahawanitchakit (2015).

Technology growth

Technology growth is defined as the recognition of the organization of the forward change of technology and the speed of continuous technology growth that is associated with the operation of organizational business (Glazer and Weiss, 1993; Jumpapang and Ussahawanitchakit, 2010). The degree of perceptions of changes in an IT environment, innovation, and communication system will be used for the measurement of technology growth. This construct war adapted from a study by

Jirawuttinun and Ussahawanitchakit (2013), and was investigated through five questions in the questionnaire scale.

Market change

Market change is defined as the perception of the organization about the change in the market, which is unpredictable change, and has both a positive and negative impact on organizational business (Lissack and Gunz, 2005). Market change is measured by the level of awareness about political change, economy, society and the behavior of stakeholders that influence the business operations of the organization (Ashill and Jobber, 1999).The assessment of market change was based on the responses to four questions in the questionnaire.

Moderating Variables

Competitive turbulence is designated as moderating variables and is investigated in this research. The impact of competitive turbulence is predicted to increase the relationship between antecedents (forward-looking vision, learning utilization, resources complementarity, technology growth, and market change) and each dimension of strategic renewal capability (operational maintenance focus, environmental adaptation orientation, business development capability and organizational innovation enhancement). Competitive turbulence is used to evaluate each item that is used to investigate this moderating variable.

Competitive turbulence

Competitive turbulence in this research refers to the degree of ambiguity and complexity of the competitive element, which is caused by an increase in the number of competitors, changing the behavior of competitors and the unexpected competition in the market (Meijer, 2010; Thipsri and Ussahawanitchakit, 2009). This construct explored using four questions formulated a study by Prasertsang and Ussahawanitchakit (2012).

Control Variables

In this research, there are two controlled variables relating to the age and the size of a firm. It has been suggested in previous research that larger and older firms may face organizational inertia (Huff, Huff and Thomas, 1992), while smaller and younger firms are more likely to encounter resource constraints which affect an ability of firms to process information related to changing resources and adapting to changing resource conditions (Patel, Terjesen and Li, 2012). Therefore, both firm age and firm size may affect the relationship between strategic renewal capability and firm sustainability, and antecedent variables, that is, strategic renewal capability.

Firm age

Firm age is associated with business experience, competitiveness and capability. According to Leiblein, Reuer and Dalsace (2002), firm age may influence firm performance and sustainability. Older firms may benefit from accumulated experience. Therefore, firm performance and sustainability are affected by firm's age. Firm age is the period of time the firm has been in business (Biddle, Hilary and Verdi, 2009). In this research, firm age is measured by operating periods (Zhou et al., 2005). Mature firms are more likely to renew organizational capability rather than younger firms (Baden-Fuller and Volberda, 1997). Hence, it is represented by a dummy variable (0 = less than or equal to 15 years, and 1 = more than 15 years).

Firm size

Firm size may be related to the operating capital of the firm and can also be measured by reference to the number of employees currently working full-time and registered in the firm. The research of Patel, Terjesen and Li (2012) suggests it is possible that firm size may have a significant impact on the renewal capability. Thus, the analysis in this research controls firm size by using the number of employees as a proxy. In this case, it is represented by a dummy variable where 0 = less than 25 employees, and 1 = equals 25 or more employees.

Methods

In this research, the data have been collected using a mailed-out questionnaire survey. The items in the questionnaire were developed by adopting either existing approaches from earlier studies or by generating new questions from the literature and the definitions of concepts. As some items are new they have been verified by two independent experts as detailed in Appendix G. Prior to the mail-out to the 855 respondents a pre-test was conducted addressed to a cohort of thirty respondents to test the validity and reliability of the questionnaire (see Appendix C). All of the pre-test questions were included in the final questionnaires (see Appendix E [Thai] and F [English]) used for data collection applied to test the hypotheses using multiple regression analysis.

Validity and Reliability

The tests of validity and reliability reflect the truthfulness and credibility of the instrument and the findings: therefore, it must be tested to represent the quality of the instrument (Neuman, 2006).

Validity represents the degree to which the instruments can correctly and precisely measure the targeted constructs (Peter, 1979; Hair et al., 2010). The validity is tested to assert the quality of the developed instruments that are powerful in predicting future behaviors (Piercy and Morgan, 1994). In this research, two types of validity, comprising content validity and construct validity, are tested.

Content validity is to verify the accuracy of test content to ensure that it covers the behavior domain to be measured (Anastasi and Urbina, 1997). It is the systematic examination of scaled items to ensure they sufficiently reflect the interrelated theoretical domains (Green et al., 1988). The scores from tests represent the essence of the scale represents the construct being measured. A specialist, an academic expert assessed each of the items in the questionnaire. In this research, validation of content required two experts in academic research to review and suggest any necessary refinement of questions in relation to the variable content. Thus, after referral to the two experts some points regarding the format of the questionnaire, and some specific questions were modified, adjusted or deleted to ensure clarity.

Construct validity is evaluated to ensure that the measure truly measures what it is intended to measure (Trochim, 1999). Convergent validity and discriminant validity are two types of construct validity that are generally assessed. Convergent validity exists when all pairs of measures that are designed to measure the same construct show a high correlation (Kwok and Sharp, 1998). Discriminant validity exists when all pairs of measures that are designed to measure different constructs show low correlation (Trochim, 1999). In addition, factorial validity is also used to examine construct validity. Factorial validity is tested by using factor analysis, including exploratory factor analysis (EFA) and confirmatory factor analysis (CFA) (Fisher, Maltz and Jaworski, 1997). Factor analysis is applied to identify important factors, and reduce low-correlated items. Exploratory factor analysis was used for constructs that were measured as new items, while confirmatory factor analysis was deployed for constructs that were measured by the item scales which were adapted from existing measurements. The acceptable cut-off score was 40, as a minimum (Nunnally and Bernstein, 1994).

Reliability is the degree to which an assessment tool stably and consistently predicts the results. It indicates the degree of internal consistency between the multiple variables. Internal consistency or reliability is commonly measured by Cronbach's alpha coefficient. The higher the coefficient scores the lower the level of error, and at the same time all items together are measured with reference to a single construct.

Cronbach's alpha coefficient was used to test the internal consistency of each construct. Internal consistency is an approach to evaluate the consistency or reliability within a collection of multiple items that represent the scale (Thoumrungroje, 2013). Coefficient alpha or Cronbach's alpha was employed to estimate reliability. In this regard Cronbach's alpha should be greater than 0.70 to ensure the internal consistency (Nunnally and Bernstein, 1994; Hair et al., 2010). Therefore, in this study, reliability was acceptable as Cronbach's alpha coefficient value was equal to or greater than 0.70 (Hair et al., 2010).

Table 5 shows the results of measurement verification of the 30 sets of pretest data. Both factor loading and Cronbach’s Alpha were tested. The factor loadings were tabulated and the range of variables was between 0.628-0.967, which is above the cut-off score of 0.4, as recommended by Nunnally and Bernstein (1994). This indicates that construct validity is at acceptable levels. Moreover, the range of Cronbach’s alpha

coefficient was between 0.794-0.941, all of which was greater than 0.7. Therefore, it can be concluded that all items in this research have sufficient internal consistency.

Table 5 Results of Validity and Reliability Testing of Pretest

Variables	Factor Loadings	Cronbach's Alpha
Operational Maintenance Focus (OMF)	.726 - .817	.818
Environmental Adaptation Orientation (EAO)	.824 - .908	.895
Business Development Capability (BDC)	.795 - .878	.885
Organizational Innovation Enhancement (OIE)	.794 - .897	.868
Goal Achievement Excellence (GAE)	.775 - .948	.884
Stakeholder Expectations Fulfillment (SEF)	.659 - .882	.794
Dynamic Corporate Competitiveness (DCC)	.843 - .904	.916
Organizational Survival (OSV)	.839 - .885	.915
Firm Sustainability (FSU)	.881 - .916	.941
Forward-Looking Vision (FLV)	.839 - .881	.903
Learning Utilization (LUT)	.628 - .870	.812
Resources Complementarity (RCO)	.702 - .844	.845
Technology Growth (TGR)	.778 - .899	.902
Market Change (MCH)	.744 - .897	.837
Competitive Turbulence (CTU)	.843 - .967	.916

Testing Non-Response Bias

It is almost inevitable in research that the responses to a mail-out survey from the target population are incomplete. Hence a non-response bias calculation is generally required, as in this research verify that participants can be inferred to be representative of the entire population (Lewis, Hardy and Snaith, 2013). Thus, the non-response bias is

evaluated to ensure the legitimacy of the research outcomes by ensuring that the final sample represents the population of the research. The non-response bias is tested before the data are analyzed. Non-response bias testing is used to verify bias between "response" and "non-response" by comparing early versus late responders (Armstrong and Overton, 1977). In analyzing the data received this research used t-test comparisons to compare the firms' characteristics, such as the amount of capital, the number of employees, and average income per year between early and late respondents. If the t-test comparison shows no significant difference between these two groups of respondents, it can be assumed that these returned questionnaires have no non-response bias problem (Armstrong and Overton, 1977). All of the received questionnaires were divided into two equal groups. The early respondents' responses and the late respondents' responses have been compared by using, t-test analysis. The firms' demographics, including business entity, business types, working capital, number of employees, operating periods and average annual incomes were compared.

The results are as follows: business entity ($t = -1.158$, $p > 0.05$), business types ($t = -0.215$, $p > 0.05$), working capital ($t = 0.089$, $p > 0.05$), number of full time employees ($t = 0.694$, $p > 0.05$), the period of time in business ($t = 0.808$, $p > 0.05$) and average annual income were compared ($t = -0.923$, $p > 0.05$). These results provide the evidence that there were no statistically significant differences between the two groups at a 95percent confidence level. It can be confidently concluded that the non-response bias is not a serious problem in this research (Armstrong and Overton, 1977). The results of the non-response bias test are presented in Appendix B.

Statistical Techniques

Before the hypotheses were tested using regression analysis, the raw data should be verified and the basic assumptions of the regression analysis should also be tested, including outliers, missing data, homoscedasticity, auto-correlation, normality and linearity. Moreover, other statistical techniques that were tested in this research included descriptive analysis, factor analysis, correlation analysis, variance inflation factors, and multiple regression analysis.

Descriptive analysis is used to provide a demographic profile of the key informants in software businesses as the sample, which is analyzed by percentage. The descriptive statistical analysis of the research variables was analyzed as to the mean and standard deviation of all variables.

Factor analysis is used in this research to find the validity of the measurement which reduces many numbers of variables to a fewer number of variables (Hair et al., 2010). An exploratory factor analysis and confirmatory factor analysis are used to estimate the dimensionality of the measurement. The score of the factor loading represents the strength of the relationship between an item and a particular construct or factor. Nunnally and Bernstein (1994) recommend that factor loadings should not be less than 0.40. Using the guideline in the research, the items that have a score factor loading lower than 0.40 were discarded.

Correlation analysis is employed as a general instrument to measure the strength of the linear dependence between two variables. Pearson's correlation is applied in this research to explore the relationship between two independent variables to check the presence of multi-collinearity. The correlation value between two variables varies from + 1 to -1 (Cohen et al., 2003). Due to the assumption that the regression analysis raises no problem of multi-collinearity among independent variables, correlation analysis was necessary to verify research outcomes. Thus, monitoring the multi-collinearity issues is highly correlated with other independent variables where the multi-collinearity factor may occur (Homberg, Artz and Wieseke, 2012). In addition, Hair et al. (2010) suggested that multi-collinearity issues arise when the relationships between two variables are equal to or greater than the absolute of 0.80. Thus, this research has addressed the problem by using factor analysis to group highly-correlated variables together, and the factor score of all variables were tabulated to avoid any multi-collinearity problem.

Variance inflation factors (VIF) are another statistic used to test the degree of multi-collinearity between the independent variables. High VIF values represent a high degree of multi-collinearity among independent variables. Multi-collinearity issues are

of concern when the VIF value indicates a reading higher than 10 (Hair et al., 2010; Stevens, 2002).

Multiple regression analysis the Ordinary Least Squares (OLS) regression analysis was applied to examine the hypotheses. Given the range of distribution of data collected in this research, across a wide range of variables, both interval and categorical regression analysis was appropriate to test the relationships among all variables (Hair et al., 2010). In order to avoid errors in the regression analysis, the underlying assumptions, employed to verify outcomes included normality, linearity, multi-collinearity, auto-correlation and heteroscedasticity (Osborne and Waters, 2001). Consequently, the proposed hypotheses are transformed into sixteen equations that guided the steps in the regression analysis. The equations are elaborated as follows:-

Equation 1: $GAE = \alpha_1 + \beta_1 OMF + \beta_2 EAO + \beta_3 BDC + \beta_4 OIE + \beta_5 FAG + \beta_6 FSI + \varepsilon_1$

Equation 2: $SEF = \alpha_2 + \beta_7 OMF + \beta_8 EAO + \beta_9 BDC + \beta_{10} OIE + \beta_{11} FAG + \beta_{12} FSI + \varepsilon_2$

Equation 3: $DCC = \alpha_3 + \beta_{13} OMF + \beta_{14} EAO + \beta_{15} BDC + \beta_{16} OIE + \beta_{17} FAG + \beta_{18} FSI + \varepsilon_2$

Equation 4: $DCC = \alpha_4 + \beta_{19} GAE + \beta_{20} SEF + \beta_{21} FAG + \beta_{22} FSI + \varepsilon_4$

Equation 5: $OSV = \alpha_5 + \beta_{23} OMF + \beta_{24} EAO + \beta_{25} BDC + \beta_{26} OIE + \beta_{27} FAG + \beta_{28} FSI + \varepsilon_5$

Equation 6: $OSV = A_6 + \beta_{29} GAE + \beta_{30} SEF + \beta_{31} DCC + \beta_{32} FAG + \beta_{33} FSI + \varepsilon_6$

Equation 7: $FSU = \alpha_7 + \beta_{34} OMF + \beta_{35} EAO + \beta_{36} BDC + \beta_{37} OIE + \beta_{38} FAG + \beta_{39} FSI + \varepsilon_7$

Equation 8: $FSU = \alpha_8 + \beta_{40} OSV + \beta_{41} FAG + \beta_{42} FSI + \varepsilon_8$

Equation 9: $OMF = \alpha_9 + \beta_{43} FLV + \beta_{44} LUT + \beta_{45} RCO + \beta_{46} TGR + \beta_{47} MCH \beta_{48} FAG + \beta_{49} FSI + \varepsilon_9$

Equation 10: $OMF = \alpha_9 + \beta_{50} FLV + \beta_{51} LUT + \beta_{52} RCO + \beta_{53} TGR + \beta_{54} MCH + \beta_{55} CTU + \beta_{56}(FLV*CTU) + \beta_{57}(LUT*CTU) + \beta_{58}(RCO*CTU) + \beta_{59}(TGR*CTU) + \beta_{60}(MCH*CTU) + \beta_{61} FAG + \beta_{62} FSI + \varepsilon_{10}$

Equation 11: $EAO = \alpha_{11} + \beta_{63}FLV + \beta_{64}LUT + \beta_{65}RCO + \beta_{66}TGR + \beta_{67}MCH \beta_{68}FAG + \beta_{69}FSI + \varepsilon_{11}$

Equation 12: $EAO = \alpha_{12} + \beta_{70}FLV + \beta_{71}LUT + \beta_{72}RCO + \beta_{73}TGR + \beta_{74}MCH + \beta_{75}CTU + \beta_{76}(FLV*CTU) + \beta_{77}(LUT*CTU) + \beta_{78}(RCO*CTU) + \beta_{79}(TGR*CTU) + \beta_{80}(MCH*CTU) + \beta_{81}FAG + \beta_{82}FSI + \varepsilon_{12}$

Equation 13: $BDC = \alpha_{13} + \beta_{83}FLV + \beta_{84}LUT + \beta_{85}RCO + \beta_{86}TGR + \beta_{87}MCH \beta_{88}FAG + \beta_{89}FSI + \varepsilon_{13}$

Equation 14: $BDC = \alpha_{14} + \beta_{90}FLV + \beta_{91}LUT + \beta_{92}RCO + \beta_{93}TGR + \beta_{94}MCH + \beta_{95}CTU + \beta_{96}(FLV*CTU) + \beta_{97}(LUT*CTU) + \beta_{98}(RCO*CTU) + \beta_{99}(TGR*CTU) + \beta_{100}(MCH*CTU) + \beta_{101}FAG + \beta_{102}FSI + \varepsilon_{14}$

Equation 15: $OIE = \alpha_{15} + \beta_{103}FLV + \beta_{104}LUT + \beta_{105}RCO + \beta_{106}TGR + \beta_{107}MCH \beta_{108}FAG + \beta_{109}FSI + \varepsilon_{15}$

Equation 16: $OIE = \alpha_{16} + \beta_{110}FLV + \beta_{111}LUT + \beta_{112}RCO + \beta_{113}TGR + \beta_{114}MCH + \beta_{115}CTU + \beta_{116}(FLV*CTU) + \beta_{117}(LUT*CTU) + \beta_{118}(RCO*CTU) + \beta_{119}(TGR*CTU) + \beta_{120}(MCH*CTU) + \beta_{121}FAG + \beta_{122}FSI + \varepsilon_{14}$

Where,

OMF	=	Operational Maintenance Focus
EAO	=	Environmental Adaptation Orientation
BDC	=	Business Development Capability
OIE	=	Organizational Innovation Enhancement
GAE	=	Goal Achievement Excellence
SEF	=	Stakeholder Expectations Fulfillment
DCC	=	Dynamic Corporate Competitiveness
OSV	=	Organizational Survival
FSU	=	Firm Sustainability
FLV	=	Forward-Looking Vision
LUT	=	Learning Utilization
RCO	=	Resources Complementarity

TGR	=	Technology Growth
MCH	=	Market Change
CTU		Competitive Turbulence
FAG	=	Firm Age
FSI	=	Firm Size
ε	=	Error Term
α	=	Constant
β	=	Coefficient

Summary

This section has described the research methods used to test the hypotheses. As discussed, in this research, the population was selected from the database of the Software Industry Promotion Agency (SIPA), Thailand. A total of 855 software businesses in Thailand were selected as the population and sample in this research. A pre-test was conducted and following this the survey questionnaire was refined and mailed to the target population, executives or general managers, the top management, of each firm. After eight weeks, a follow-up questionnaire was sent out to non-respondents, and then the useable questionnaires were assessed and analyzed. The non-response bias was tested to confirm that the sample truly represented the population. To ensure the quality of the measurement, validity and reliability were also assessed. Moreover, this section detailed the measurement of each construct. Finally, 16 statistical equations were generated to test the hypotheses.

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Table 6 Definitions and Operational Variables of Constructs

Constructs	Definition	Operational Variables	Scale Source
Main Variable *Operational Maintenance Focus (OMF)*	The intention of firm to treat the efficiency of organizational operation when over time, and the relation between the concept maintenance policy and maintenance efficiency to accomplish the organizational purposes (Pöyhönen, 2004).	The activities of the organization that focused on maintenance efficiency, knowledge assessment, data preservation and monitoring environmental.	New scale
Environmental Adaptation Orientation (EAO)	Specific capability to adjust to respond to environmental change, which organization uses this ability to build survival and competitiveness. It is efforts to improve their own businesses to suit the rapidly changing environment and focuses on the organizational success (Lee, 2001).	The ability to modification, adaptation, and flexibility, and learning techniques or a combination of new technologies into the enterprise under changing environment of organization.	Chankaew and Ussahawanitchakit (2012)
Business Development Capability (BDC)	The ability about the potential creation for organizational growth (Sørensen, 2012). It is associated with the routines and skills that serve to enable growth for organization by identifying opportunities and guiding the deployment.	The process about the potential creation for organizational growth such as increment of market channels, product quality and stakeholder relations.	New scale

Table 6 Definitions and Operational Variables of Constructs (continued)

Constructs	Definition	Operational Variables	Scale Sources
Organizational Innovation Enhancement (OIE)	The development or adoption of innovation in both style technology innovation and management innovation into business operations, which it is using new technology or new administrative practices for the operation of the organization.	The increase in innovation related to operations such as new process, service, and product which create from the idea of organization to build the efficiency of operation.	Pongpearchan and Ussahawanitchakit (2011)
Consequent variables *Goal Achievement Excellence (GAE)*	The ability to achieve the objectives of the organization from results of the success on implementation of the work plan in line with the organization's mission, vision and strategy (Zaccaro and Klimoski, 2001).	The goal achievement related to the performance of the overall organization consists of the reduction of waste, quality of work, reducing errors and saving cost.	New scale
Stakeholder Expectations Fulfillment (SEF)	The capabilities of the organization to fulfill the requirements of those stakeholders who affects the ability and success of the organization. (Johnson and others, 2003).	The degree of accurately responds to demands of those who are in both inside and outside the organization.	New scale

Table 6 Definitions and Operational Variables of Constructs (continued)

Constructs	Definition	Operational Variables	Scale Sources
Dynamic Corporate Competitiveness (DCC)	The ability of the organization to create a competitive advantage from operations that can change and adapt faster than the others, and responding to the demands the rapidly changing market (Fang and Zuo, 2009).	The level of ability to make a significant difference with its competitors such as new product development, improvement of service, product offerings to the market.	*Dynamic Corporate Competitiveness(DCC)*
Organizational Survival (OSV)	The stability of organization business by managing the uncertain competitive environment, and continue to exist in long-term business during a period of time (Persson, 2004).	The perception about the survival of the business in the long term, business overall outcome, recognized by customers, retain old customers and business administration under the risks.	New scale

Table 6 Definitions and Operational Variables of Constructs (continued)

Constructs	Definition	Operational Variables	Scale Source
Firm Sustainability (FSU)	The overall outcome which achieves goal both in the short term and long term of sales growth, profitability, market share, ability to introduce innovation, customer satisfaction includes providing outstanding services over competitors and having the reputation that accepting from customers when compare with the operating results in the past.	The increase in sales growth, profitability and market share, ability to introduce innovation and stakeholder satisfaction, when compare with the operating results in the past.	Phokha and Ussahawanitchakit (2011)
Antecedent Variables			
Forward-Looking Vision (FLV)	The commitment to promoting the ability to adapt in order to develop the organizational growth by powered to change in organization of executives to future image of the business.	The degree of orientation to the operation to future success of the organization by powered to change in organization of executives to future image of the business.	New scale

Table 6 Definitions and Operational Variables of Constructs (continued)

Constructs	Definition	Operational Variables	Scale Sources
Learning Utilization (LUT)	Ability to take advantage from the organizational learning to create and develop the cognitive abilities to achieve the objectives of the firm.	The degree of knowledge distribution, apportionment, maintenance and integration to potential to improve a firm's capabilities.	New scale
Resources Complementarity (RCO)	The completeness and the sufficiency of the resource that is controlled by the organization which this resource of the organization may be both tangible and intangible asset.	Potential resources to support the work of the business process to achieve corporate targets.	Tungbunyasiri and Ussahawanitchakit (2015)
Technology Growth (TGR)	The recognition of the organization on the forward change of technology and the speed of continuous technology growth that associated with the operation of organizational business (Glazer and Weiss, 1993; Jumpapang, Ussahawanitchakit, 2010).	The degree of perceptions of changes in IT environment, innovation, and communication system.	Jirawuttinunt and Ussahawanitchakit (2013)

Table 6 Definitions and Operational Variables of Constructs (continued)

Constructs	Definition	Operational Variables	Scale Sources
Market Change (MCH)	The perception of the organization about the change of the market which it is unpredictable change and it has both positive and negative impact on the organizational business (Lissack and Gunz, 2005).	The level of awareness about changing of political, economic, social and behavior of stakeholders that influence the business operations of the organization.	New scale
Moderating Variable *Competitive Turbulence (CTU)*	The changing business circumstance such as customer behaviors, competitors, suppliers, business networks, and substitute services which affect the business development of the organization.	The degree of ambiguity and complexity of the competitive element, which caused by the increase in the number of competitors, changing the behavior of competitors and unexpected competition in the market (Thipsri and Ussahawanitchakit, 2009; Meijer, 2010).	Prasertsang and Ussahawanitchakit (2012)

Table 6 Definitions and Operational Variables of Constructs (continued)

Constructs	Definition	Operational Variables	Scale Sources
Control Variables			
Firm Age (FAG)	Number of years that a firm has been operating in business.	Dummy variable 0 = less than or equal to 15 years 1 = more than 15 years	Delmotte and Sels (2008)
Firm Size (FSI)	Number of employees currently working as full-time.	Dummy variable 0 = less than 25 employees 1 = equals 25 or more employees	Waranantakul, Ussahawanitchakit, and Jhundra-indra (2013)

CHAPTER IV

RESULTS AND DISCUSSION

The preceding chapter outlined the methodology applied in this research, the detailed population and sample selection, the data collection procedures and the analysis of data. This chapter presents the results of the data analysis and is organized as follows. Firstly, the characteristics of the respondents and the firms are synthesized and presented as overall data. Secondly, the bivariate correlation between all pairs of variables is outlined to explore the degree of statistical relationships. Thirdly, the results of the hypothesis testing are detailed, tabulated, and explained. Finally, the hypothesis testing results are summarized in Table 15.

Respondent Characteristics and Descriptive Statistics

As explained in chapter III the target population was 855 software businesses in Thailand. However, only 156 usable responses were obtained. The respondents, the key informants were the top managers, the chief executive or the managing director of each firm. The respondents' demographic characteristics were collated and included gender, age, marital status, level of education, work experience, average revenues per month, as well as their status in the firm. Business related data obtained from respondents included the business types, nature of production, working capital, the period of time in business, average annual income, and whether the firm was a member of the Software Industry Promotion Agency.

Respondents' Characteristics

The responses of the 156 key informants are detailed in Table 1B (Appendix B) which may be summarized as follows: The gender of the respondents are male (64.10 percent). The age span of the majority of respondents is between 30-40 years old (41.70 percent). The marital status of respondents are generally married (46.20 percent). More than half of the respondents have higher than Bachelor's degree (53.20 percent). Working experiences of the respondents have been in their current positions for m

than 15 years (57.69 percent). In addition, 33.98 percent have average revenues per month more than 90,000 Baht. Finally, 53.20 percent of the respondents hold the current position of executive directors.

Businesses Related Data

The characteristics of the businesses that responded to the survey are detailed in Table 1C (Appendix C). This table outlines the particulars of the characteristics of the 156 software in Thailand that responded to the survey questionnaire. This research obtained the following information from 156 software businesses as follows: All of the software businesses are company limited (100.00 percent). The main focus of businesses is enterprise software (69.87 percent). Nature of production is "made-to-order" production outlets (55.77 percent). Appropriately 75.64 percent of working capital of these software businesses is less than 10,000,000 baht. Number of full time employees has less than 25 employees (64.74 percent). The period of time in business has operated for less than 15 years (60.26 percent). Lastly, the average annual income of the majority of these businesses is more than 15,000,000 Baht (45.51percent).

Correlation Matrix; Analysis of the Variables

This research used the Pearson correlation method to verify multicollinearity to explore the relationship between the variables. The results of the correlation analysis are presented in Table 7. The analysis identified multicollinearity between pairs of variables by observing the degree of relationship as shown as a correlation value. The boundary of the correlation values ranges from -1 to 1. The absolute higher degree of correlation represents the higher level of the relationship, while the absolute degree of correlation close to zero value represents the lower level of the relationship. Therefore, multicollinearity will be identified when correlation of the two same level variables is higher than 0.8 (Hair et al., 2006)

For correlation analysis, the empirical evidence suggests that there are relationships among the four dimensions of strategic renewal capability ($r = 0.420\text{-}0.612$, $p < 0.01$) Likewise, the correlations among the same level of consequences, including goal achievement excellence, stakeholder expectations fulfillment and dynamic corporate competitiveness($r = 0.704\text{-}0.750$, $p < 0.01$). In the antecedents aspect, the correlations among the same level including forward-looking vision, learning

utilization, resources complementarities, technology growth and market change ($r = 0.173$-$.665$, $p < 0.01$). Accordingly, the results of correlation between the same level of variables indicate that all relevant bivariate correlation values do not exceed 0.8. In other words, no inconsistency with multicollinearity was found.

Table 7 Correlation Matrix of Strategic Renewal Capability, its Consequences, Antecedents and Moderating Variables

Variable	OMF	EAO	BDC	OIE	GAE	SEF	DCC	OSV	FSU	FLV	LUT	RCO	TGR	MCH	CTU	FAG	FSI
Mean	4.08	4.22	4.11	4.12	3.62	3.82	3.69	3.80	3.51	3.95	4.05	3.92	4.16	3.95	4.01	-	-
SD	0.55	0.59	0.58	0.59	0.64	0.59	0.64	0.63	0.83	0.55	0.58	0.58	0.53	0.46	0.67	-	-
OMF	1																
EAO	.612***	1															
BDC	.502***	.420***	1														
OIE	.540***	.533***	.612***	1													
GAE	.503***	.469***	.439***	.488***	1												
SEF	.600***	.467***	.537***	.582***	.704***	1											
DCC	.532***	.434***	.449***	.567***	.750***	.719***	1										
OSV	.500***	.472***	.468***	.495***	.721***	.613***	.795***	1									
FSU	.516***	.470***	.443***	.512***	.713***	.527***	.786***	.794***	1								
FLV	.657***	.423***	.463***	.520***	.579***	.681***	.678***	.655***	.564***	1							
LUT	.541***	.519***	.516***	.631***	.563***	.594***	.635***	.664***	.583***	.665***	1						
RCO	.644***	.518***	.533***	.612***	.597***	.698***	.672***	.645***	.612***	.674***	.711***	1					
TGR	.620***	.494***	.492***	.571***	.338***	.505***	.470***	.478***	.424***	.614***	.628***	.632***	1				
MCH	.393***	.278***	.545***	.507***	.136	.386***	.257***	.203**	.198**	.458***	.369***	.395***	.531***	1			
CTU	.208***	.310***	.302***	.296***	.303***	.268***	.243***	.213***	.273***	.173**	.264***	.249***	.251***	.420***	1		
FAG	-.026	.116	.086	.041	.128	-.001	-.053	.023	-.017	.025	.073	.071	.032	.057	.135	1	
FSI	-.011	.042	-.045	.049	.089	-.001	.099	.088	.137	.000	-.091	-.007	-.053	-.054	-.056	.272***	1

.*** Correlation is significant at the .01 level (2-tailed)
.** Correlation is significant at the .05 level (2-tailed)

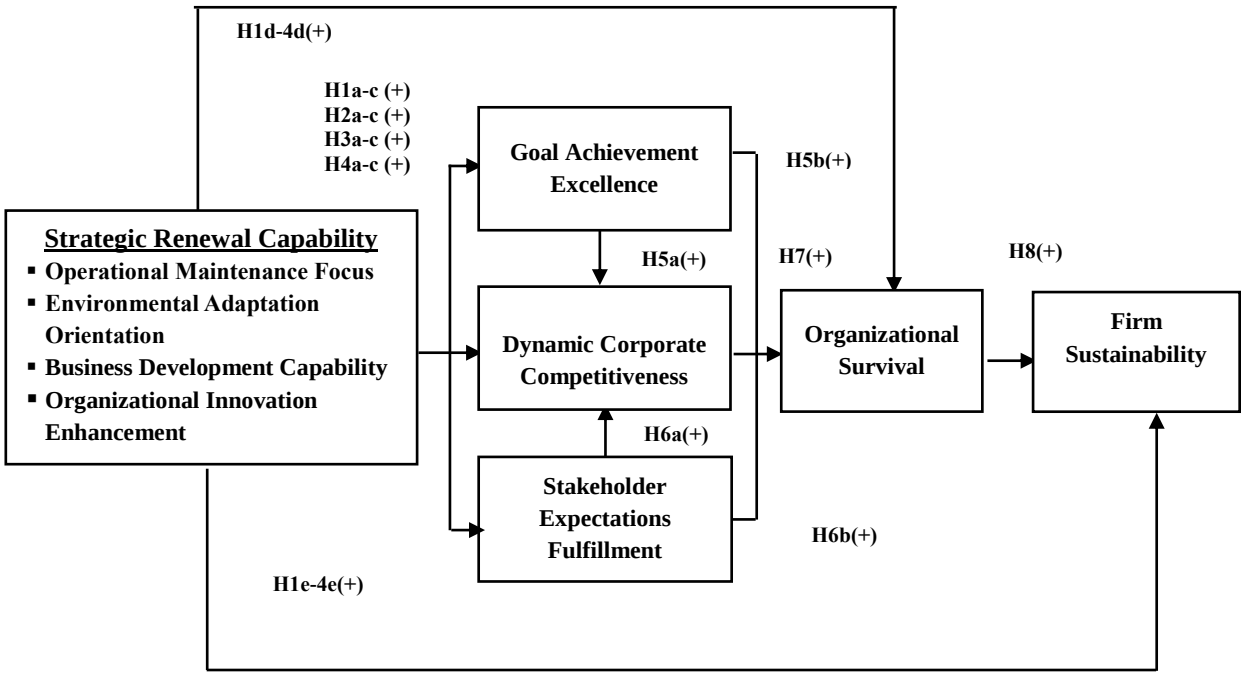
Hypothesis Testing and Results

Ordinary Least Squares (OLS) regression analysis was used to analyze the data. OLS is an appropriate method for testing the hypothesized relationships because it can best explain and predict the dependent variable from the combination of several independent variables. All hypotheses were transformed into 16 linear regression equation models. In addition, all equations included two dummy variables generated from two control variables, namely, firm age and firm size as follows.

The Effects of Strategic Renewal Capability on its Consequences

The effects of the dimensions of strategic renewal capability, including operational maintenance focus, environmental adaptation orientation, business development capability and organizational innovation enhancement on its consequences consisting of goal achievement excellence, stakeholder expectations fulfillment, dynamic corporate competitiveness, organizational survival and firm sustainability are based on hypotheses 1(a-e) and to 4(a-e). All relationships between the four dimensions of strategic renewal capability and its consequences were hypothesized to be positively correlated. These hypotheses were analyzed from the regression equation models 1, 2, 3, 5 and 7 as described in chapter III. The results are presented in Figure 7.

Figure 7 The Effects of Strategic Renewal Capability on its Consequences



The correlations among each dimension of strategic renewal capability and its consequential relationships are shown in Table 8. Firstly, the results show that the correlation among the dimensions of strategic renewal capability, including operational maintenance focus, environmental adaptation orientation, business development capability and organizational innovation enhancement are between 0.420 and 0.612. These correlations do not exceed 0.8, so they are within the limits as recommended by Hair et al. (2010). In addition, the maximum VIF value of four dimensions of strategic renewal capability is 1.930 which is well below the cut-off value of 10 (Hair et al., 2010). Thus, this research identified no multicollinearity problems. Secondly, the results show that all dimensions of strategic renewal capability are significantly and positively related to all consequences of strategic renewal capability, comprising goal achievement excellence, stakeholder expectations fulfillment, dynamic corporate competitiveness, organizational survival and firm sustainability
($r = 0.434$-$.600$, $p < 0.01$).

Table 8 Correlation Matrix of Strategic Renewal Capability and Seven Consequences of Strategic Renewal Capability

Variable	OMF	EAO	BDC	OIE	GAE	SEF	DCC	OSV	FSU	FAG
Mean	4.08	4.22	4.11	4.12	3.62	3.82	3.69	3.80	3.51	-
SD	0.55	0.59	0.58	0.59	0.64	0.59	0.64	0.63	0.83	-
OMF	1									
EAO	.612***	1								
BDC	.502***	.420***	1							
OIE	.540***	.533***	.612***	1						
GAE	.503***	.466***	.439***	.488***	1					
SEF	.600***	.467***	.537***	.582***	.704***	1				
DCC	.532***	.434***	.449***	.567***	.750***	.719***	1			
OSV	.500***	.472***	.468***	.495***	.721***	.613***	.795***	1		
FSU	.516***	.470***	.443***	.512***	.713***	.527***	.786***	.824***	1	
FAG	-.026	.116	.086	.041	.128	-.001	-.053	.023	-.017	1
FSI	-.011	.042	-.045	.049	.089	-.001	.099	.088	.137	.272***

Note: *** $p < .01$

The hypothesis testing, of the results of OLS regression analyses are presented in Table 9. Firstly, the results indicate that operational maintenance focus (first dimension) significantly and positively impact on goal achievement excellence (β_1= 0.239,p < 0.01), stakeholder expectations fulfillment (β_7= 0.331, p < 0.01), dynamic corporate competitiveness (β_{13}= 0.273, p < 0.01), organizational survival (β_{23}= 0.197, p < 0.05) and firm sustainability (β_{34}= 0.227, p < 0.05). These results are consistent with Swanson (2001) suggested that operational maintenance focus is viewed as the ability to lead the organization to sustainable development because maintenance helps to reduce errors caused by the operation and increase, the performance of organizations. Likewise, studies by Chan and Kenny (2008) identified that if organizations can maintain performance under environmental turbulence, they will have a competitive advantage. Similarly, the operational maintenance focus is defined as maintenance performance under environmental change; thus, influencing survival of the organization (Hamel, 1998; Teece, Pisano and Shuen, 1997). ***Thus, hypotheses 1a, 1b, 1c, 1d and 1e are supported***.

Secondly, the results show that there is a relationship between environmental adaptation orientation and its consequences comprising goal achievement excellence (β_2= 0.152, p < 0.10), organizational survival (β_{23}= 0.175, p < 0.05) and firm sustainability (β_{35}= 0.158, p < 0.10). In line with Morris and Zahra (1999) suggested that organizations which execute adaptations will have more organizational competitiveness than organizations without adaptation. Meanwhile, the study of Shane and Stuart (2002) found that environmental adaptation orientation is able to respond to the expectations of stakeholders due to the adaptation that has been identified as the ability to apply the technology growth to be integrated with the operations of the organization which responds to the requirements of stakeholders. Moreover, the research of Pöyhönen (2004) and Junell and Ståhle (2011) indicated that adapting to suit the business environment can promote the survival and sustainability of an organization. ***Thus, hypotheses 2a, 2d and 2e are supported***.

In contrast, this suggests that environmental adaptation orientation does not have an influence on stakeholder expectations fulfillment (β_8= 0.045, p > 0.10) and dynamic corporate competitiveness (β_{14}= 0.060, p > 0.10). This may be in part because of in the context of the software industry, many firms are required to produce software

in response to specific customer's orders. The ability to respond to customer needs is fundamental to every organization. Thus, stakeholder expectations fulfillment is not the primary focus of organizational adaptation. Consistent with the study by Zhao et al. (2014), the principal goal of adaptation is survival. In this context adaptation is focused on the responses of the organization to meet its priorities for survival without necessarily taking into account the responses of the stakeholders (Zhao et al., 2014).

In addition, the sizes of businesses in the software industry vary considerably. Small enterprises are often unable to compete for market share in the highly volatile, competitive business environment. For an organization to survive it needs to adapt, for example, by searching for new markets. The study of Schiavone (2011) indicated that organizations that have limitations in terms of resources may decide to leave the market when faced with high levels of competition due to difficult market conditions or unattainable technological standards. Moreover, Klepper and Simons (2000) found that small, and particularly young firms, tend to exit the market when faced with highly capable competitors. In the context of the software industry, the goal is adaptation in order to survive. Adaptation may be focused as a response of the organization to meet appropriate priorities, and not take into account the responses of the stakeholders, or issues relating to corporate competiveness (Zhao et al., 2014). ***Thus, hypotheses 2b and 2c are not supported***.

Thirdly, the results reveal that business development capability has a significantly positive effect on stakeholder expectations fulfillment (β_9= 0.190, $p < 0.05$), organizational survival (β_{25}= 0.193, $p < 0.05$) and firm sustainability (β_{36}= 0.145, $p < 0.10$). Business development capability is focused on efforts to enhance the business value of an enterprise. Thus, it is associated with the development of market channels, products and relationships with stakeholders (Gibb, 2006). Likewise, the processes of business development promote the relationship between organizations and stakeholders. In addition, the study of Soltani, et al. (2014) suggested that business development is a key process for firm sustainability. In addition, levels of business development are recognized as having a relationship with the survival of organizations and this is discussed in the dynamic capabilities literature (Teece, Pisano and Shuen, 1997; Eisenhardt, 1989: Eisenhardt and Martin, 2000; Teece, 2007). ***Thus, hypotheses 3b, 3d and 3e are supported.***

However, business development capability does not have an influence on goal achievement excellence (β_3= 0.137, p > 0.10) nor dynamic corporate competitiveness (β_{15}= 0.102, p > 0.10). One possible explained on for an research results that Software businesses in Thailand can be classified as being either enterprise software firms, digital software firms , embedded software firms, or otherwise , that is, non-specific, as their production varies as it is managed on a made-to-order basis. Some firms may establish specialized subsidiary companies or contract-out the purchase of specific components. Studies of software businesses found that Seagate's strategy for building their software business involved acquiring software companies to gain new technology or compatible with their existing products, to gain intellectual property and patents to achieve synergistic expansion (Keeney, 1999). Therefore these software firms may not utilize in-house business development to attain goal achievement excellence or dynamic corporate competitiveness. ***Thus, hypotheses 3a and 3c are not supported.***

Finally, the results demonstrate that organizational innovation enhancement has several consequences, including goal achievement excellence (β_4= 0.180, p < 0.10), stakeholder expectation fulfillment (β_{10}= 0.257, p < 0.01), dynamic corporate competitiveness (β_{16}= 0.323, p < 0.01), organizational survival (β_{26}= 0.165, p < 0.10) and firm sustainability (β_{37}= 0.205, p < 0.05*).* Identically, a large number of empirical studies have found a positive effect of innovation on organizational performance (Damanpour, 1991; Danneels and Kleinschmidt, 2001; Damanpour and Wischnevsky, 2006; Gopalakrishnan, 2000). In addition, Su, Li and Su (2003) found that an increase in organizational innovation can generate a significant influence on the business performance of the organization because it is able to understand new markets and customer needs, which relates to meeting the requirements of the market. Therefore organizational innovation enhancement may have a direct relationship with stakeholder expectations fulfillment. Moreover, the study of Lemon and Sahota (2004) showed that organizational innovation as the key factor of organizational competitiveness in a rapidly changing environment. Moreover, Albers and Brewer (2003) stated that organizational innovation is the driving force for the organization's survival by taking advantage of the integration of resources and knowledge to achieve the goals of the organization. Therefore, ***hypotheses 4a, 4b, 4c, 4d and 4e are supported.***

Table 9 Results of Regression Analysis for the Effects of Each Dimension of Strategic Renewal Capability on its Consequences

Independent Variable	Dependent Variables				
	GAE (Model 1)	SEF (Model 2)	DCC (Model 3)	OSV (Model 5)	FSU (Model 7)
	(H1a-4a)	(H1b-4b)	(H1c-4c)	(H1d-4d)	(H1e-4e)
OMF	.239***	.331***	0.273***	.197**	.227**
	(.091)	(.082)	(.086)	(.090)	(.089)
EAO	.152*	.045	.060	.175 **	.158*
	(.088)	(.080)	(.084)	(.088)	(.086)
BDC	.137	.190**	.102	.193 **	.145*
	(.087)	(.079)	(.083)	(.086)	(.085)
OIE	.180*	.257***	.323***	.165*	.205**
	(.092)	(.083)	(.087)	(.091)	(.090)
FAG	.167	-.055	-.228	-.089	-.196
	(.148)	(.134)	(.141)	(.147)	(.144)
FSI	.155	.016	.292*	.235	.378**
	(.166)	(.150)	(.158)	(.165)	(.162)
Adjusted R^2	.323	.445	.383	.331	.335
Maximum VIF	1.930	1.930	1.930	1.930	1.930
Durbin-Watson	2.142	1.807	1.837	1.963	1.963

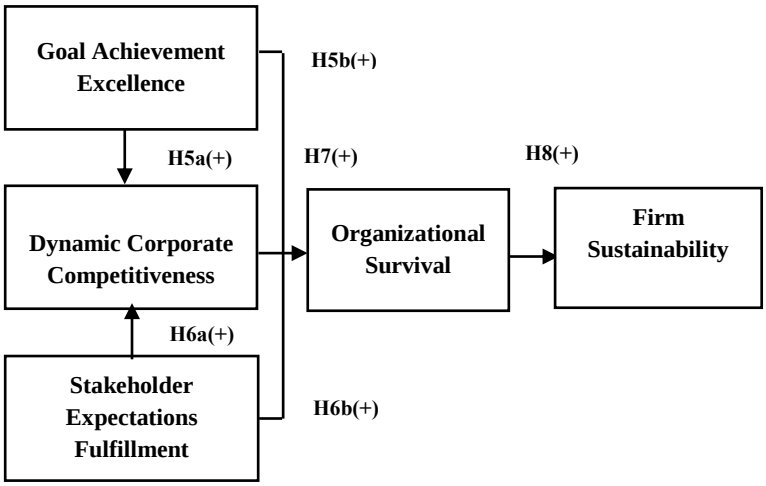
Note: ***p < .01, ** p < .05

With respect to the control variables, firm age shows there are no significant influences on goal achievement excellence (β_5= 0.167, p > 0.10), stakeholder expectations fulfillment (β_{11}= -0.055, p > 0.10), dynamic corporate competitiveness (β_{17}= -0.228, p > 0.10), organizational survival (β_{27}= -0.089, p > 0.10) and firm sustainability (β_{38}= -0.196, p > 0.10). Additionally, firm size, as a control variable has no statistically significant influence on goal achievement excellence (β_6= 0.155, p > 0.10), stakeholder expectations fulfillment (β_{11}= 0.016, p > 0.10) and organizational survival (β_{28}= 0.235, p > 0.10). However, firm size has a significant positive influence on dynamic corporate competitiveness (β_{18}= 0.292, p < 0.10) and firm sustainability (β_{39}= 0.378, p < 0.05).

The Effects of Goal Achievement Excellence, Stakeholder Expectations Fulfillment and Dynamic Corporate Competitiveness on Organizational Survival and the Effects of Organizational Survival on a Firm's Sustainability

The effects of goal achievement excellence, stakeholder expectations fulfillment and dynamic corporate competitiveness on organizational survival and the effects of organizational survival on firm sustainability based on hypotheses 5(a-b), 6(a-b), 7 and 8 are detailed in Figure 8. These relationships are proposed as positive relationships, and are analyzed using the regression equations 4, 6 and 8 detailed in chapter III.

Figure 8 The Effects of Goal Achievement Excellence, Stakeholder Expectations Fulfillment and Dynamic Corporate Competitiveness on Organizational Survival



The correlations among the outcomes of strategic renewal capability, including goal achievement excellence, stakeholder expectations fulfillment and dynamic corporate competitiveness on organizational survival and the effects of organizational survival on firm sustainability are presented in Table 10.

The result shows that the correlation among goal achievement excellence, stakeholder expectations fulfillment and dynamic corporate competitiveness are between 0.704 and 0.795, which is lower than 0.8. Also, the maximum VIF value of these consequences is 2.843. Thus, it can be concluded that there is no multi-collinearity problem.

Table 10 Descriptive Statistics and Correlation Matrix of Goal Achievement Excellence, Stakeholder Expectations Fulfillment and Dynamic Corporate Competitiveness on Organizational Survival

Variables	GAE	SEF	DCC	OSV	FSU	FAG	FSI
Mean	3.62	3.82	3.69	3.80	3.51	-	-
S.D.	0.64	0.59	0.64	0.63	0.83	-	-
GAE	1						
SEF	.704***	1					
DCC	.750***	.719***	1				
OSV	.721***	.613***	.795***	1			
FSU	.713***	.527***	.786***	.824***	1		
FAG	.128	-.001	-.053	.023	-.017	1	
FSI	.089	-.001	.099	.088	.137	.272***	1

Note: ***p < .01

The results of hypothesis testing are shown in Table 11. Firstly, the results indicate that goal achievement excellence has a significant and positive effect on dynamic corporate competitiveness (β_{19}= 0.499, p < 0.01) and organizational survival (β_{29}= 0.283, p < 0.01). In the same direction, several studies have suggested a relationship between performance and the goal achievement of an organization (Hatfield and Pearce, 1994; McClelland, 1961; Zeira and Parker, 1995). Therefore, goal achievement excellence also represents the correct strategy of an organization in a fiercely competitive environment. This achievement contributes to an organization which will be able to survive competitive turbulence. ***Thus, hypotheses 5a and 5b are supported.***

Secondly, the results show that there are significant relationships between stakeholder expectations fulfillment and dynamic corporate competitiveness (β_{20}= 0.361, p < 0.01). This stakeholder expectation response has been recognized as a dynamic capability because it encourages the organizations to respond to the organizations that are responding to rapidly changing needs, and creates value for the corporate business (Tungbunyasiri, 2013). Previous research demonstrated that an organization with the ability of stakeholder responsiveness allows an organization to differentiate its product and service from competitors, which ability affects the competitiveness of an organization (Magretta, 1998). Likewise, the study of Kumar et al. (2011) found that an organization with a focus on stakeholder expectations fulfillment is able to build a competitive advantage better than competitors. ***Thus, hypothesis 6a is supported.***

However, for the relationship between stakeholder expectations fulfillment and organizational survival, the findings reveal a non-significant result (β_{30}= -0.013, p > 0.10). In the context of the software industry, many firms are required to produce software in response to customers' requests, hence stakeholder expectations fulfillment seemed to be one of the basic abilities of all organizations in software businesses. For this reason, stakeholder expectations fulfillment does not directly impact on organizational survival as firms may limit themselves to dealing with only made-to-order requests from customers. As discussed in the Literature Review dynamic capability theory relates to the ability of firms to develop stakeholder responsiveness which promotes their corporate competitiveness, however it does not directly impact on their organizational survival (Kumar et al., 2011). Corporate competitiveness acts as an intermediary in promoting organizational survival (Teece, Pisano and Shuen, 1997). Therefore stakeholder expectation fulfillment may have an indirect impact on organizational survival through dynamic corporate competitiveness. ***Thus, hypothesis 6b is not supported.***

Thirdly, the results suggest that dynamic corporate competitiveness significantly and positively relates to organizational survival (β_{61}= 0.590, p < 0.01). This analysis is consistent with the dynamic capability theory which describes the ability in the characteristics of a dynamic to be able to survive and succeed under a changing environment (Teece, Pisano and Shuen, 1997). In terms of business,

organizations arc able to adapt and develop continuously under the changing market such as in new product development, improvement of service, and product offerings to the market. They are able to respond to the market requirements and attract customers from competitors. Therefore, this capability enables organizations to survive under any situation (Thipsri and Ussahawanitchakit, 2009). ***Thus, hypothesis 7 is supported.***

Lastly, in the relationships between organizational survival and firm sustainability, the analysis reveals that there is a significant relationship between the aforementioned relationships (β_{40}= 0.815, p < 0.01). Likewise, the study of Mozilo (2001) identified that organizational survival has the ability to respond to the diverse needs of the market by an operating efficiency that includes adapting to technology growth which leads to ongoing firm sustainability. ***Therefore, hypothesis 8 is strongly supported.***

Table 11 The Results of the Effect of Goal Achievement Excellence, Stakeholder Expectations Fulfillment and Dynamic Corporate Competitiveness on Organizational Survival

Independent Variables	**Dependent Variables**		
	DCC	**OSV**	**FSU**
	Model 4	**Model 6**	**Model 8**
	(H5a-6a)	**(H5b-6b,H7)**	**(H8)**
Goal Achievement Excellence (GAE)	**.499***** (.069)	**.283***** (.079)	-
Stakeholder Expectations Fulfillment (SEF)	**.361***** (.068)	-.013 (.073)	-
Dynamic Corporate Competitiveness (DCC)		**.590***** (.081)	-
Organizational Survival (OSV)			**.815***** (.046)
Firm Age (FAG)	**.207*** (.121)	.038 (.108)	-.122 (.108)
Firm Size (FSI)	.017 (.136)	-.004 (.120)	**.197*** (.115)
Adjusted R^2	.639	.648	.674
Maximum VIF	2.028	2.843	1.089
Durbin-Watson	2.005	1.834	2.134

Note: *** p < .01, ** p < .05, * p < .10

Additionally, the results suggest that firm age has a significant effect on dynamic corporate competitiveness ($\beta_{21} = 0.207$, $p < 0.10$). Leiblein, Reuer and Dalsace (2002), identified that firm age positively influences firm competitiveness and capability as older firms may benefit from accumulated experience. Therefore, dynamic corporate competitiveness is affected by their age. Contrarily, firm age had no significant effect on organizational survival ($\beta_{32}= 0.038$, $p > 0.10$) and firm sustainability ($\beta_{41}= -0.122$, $p > 0.10$). Moreover, firm size significantly and positively relates to firm sustainability ($\beta_{22}= 0.197$, $p < 0.10$). The research of Patel, Terjesen and Li (2012) suggests that firm size relates directly to firm performance and sustainability as large firm have advantages in terms of operational resources. Nevertheless, firm size has no significantly positive effect on dynamic corporate competitiveness ($\beta_{33}= 0.017$, $p > 0.10$) and organizational survival ($\beta_{42}= 0.00$, $p > 0.10$).

The Effects of the Antecedents on Each Dimension of Strategic Renewal Capability with Competitive Turbulence as a Moderator

Figure 9 illustrates the effects of five antecedents, including forward-looking vision, learning utilization, resources complementarity, technology growth, and market change on each of the four dimensions of strategic renewal capability (operational maintenance focus, environmental adaptation orientation, business development capability and organizational innovation enhancement). These effects are hypothesized to be positively related as proposed in Hypotheses 9(a-d) - 13(a-d) which were transformed into the regression equations in models 9, 11, 13 and 15 as described in chapter III. Furthermore, competitive turbulence is determined as the moderating variable on the relationships between these antecedents and the dimensions of strategic renewal capability.

Competitive turbulence is proposed that it strengthens the relationships between the five antecedents and four dimensions of strategic renewal capability as analyzed from the regression equation models 10, 12, 14 and 16. These relationships relied on hypotheses 14(a-d) to 18(a-d).

Figure 9: The Effects of Antecedents on Each Dimensions of Strategic Renewal Capability with Competitive Turbulence as a Moderator

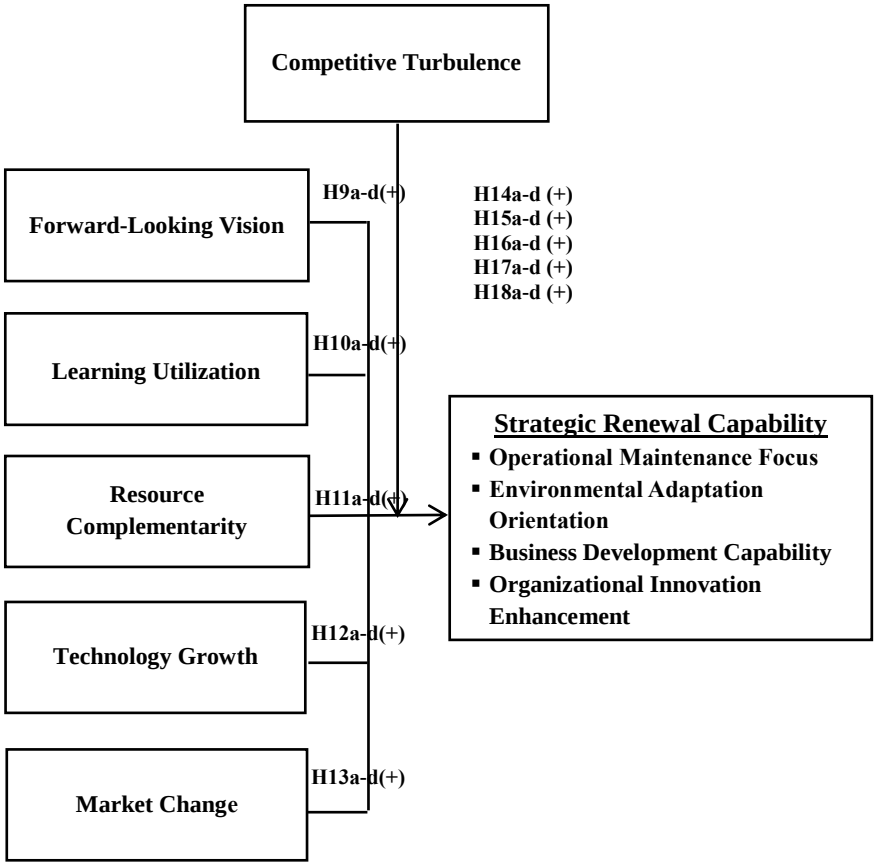


Table 12 presents the correlation among the five antecedents and four dimensions of strategic renewal capability. Firstly, the results point out that the correlation among the antecedents, including forward-looking vision, learning utilization, resources complementarity, technology growth, and market change are between 0.369 and 0.665,or less than .8 as recommended by Hair et al. (2010). Consistently, the maximum VIF among these variables is only 1.956, which is well below the cut-off value of 10 (Hair et al., 2010). Consequently, these results show that there is no concern with multi-collinearity.

Secondly, the results indicate that all antecedents are significantly and positively related to all dimensions of strategic renewal capability, comprising operational maintenance focus, environmental adaptation orientation, business development capability and organizational innovation enhancement. These correlations range between 0.420 and 0.612.

Table 12 Correlation Matrix of Competitive Turbulence, Four Antecedents of Strategic Renewal Capability, and Four Dimensions of Strategic Renewal Capability

Variables	FLV	LUT	RCO	TGR	MCH	OMF	EAO	BDC	OIE	CTU	FAG
Mean	3.95	4.05	3.92	4.16	3.95	4.08	4.22	4.11	4.12	4.01	-
S.D.	0.55	0.58	0.58	0.53	0.46	0.55	0.59	0.58	0.59	0.67	-
FLV	1										
LUT	.665***	1									
RCO	.674***	.711***	1								
TGR	.614***	.628***	.632***	1							
MCH	.458***	.369***	.395***	.531***	1						
OMF	.657***	.541***	.644***	.620***	.393***	1					
EAO	.423***	.519***	.518***	.494***	.278***	.612***	1				
BDC	.463***	.516***	.533***	.492***	.545***	.502***	.420***	1			
OIE	.520***	.631***	.612***	.571***	.507***	.540***	.533***	.612***	1		
CTU	.173**	.264***	.249***	.251***	.420***	.208***	.310***	.302***	.296***	1	
FAG	.025	.073	.071	.032	.057	-.026	.116	.086	.041	.135	1
FSI	.000	-.091	-.007	-.053	-.054	-.011	.042	-.045	.049	-.056	.272**

Note: *** p < .01, ** p < .05, * p < .10

Thirdly, the findings indicate that competitive turbulence is positively correlated to five antecedents, including forward-looking vision (r = 0.173), learning utilization (r = 0.264), resources complementarity (r = 0.249), technology growth (r = 0.251) and market change (r = 0.420) which are lower than 0.8. Furthermore, the maximum VIF among five antecedents and competitive turbulence are 2.276 which are well below the cut-off value of 10. Thus, it can be concluded that the multi-collinearity problems are of no concern. The results also show that competitive turbulence is positively correlated to the dimensions of strategic renewal capability, comprising operational maintenance focus (r = 0.208), environmental adaptation orientation (r = 0.310), business development capability (r = 0.302) and organizational innovation enhancement (r = 0.296).

The results of hypothesis testing are shown in Table 13. Firstly, the results demonstrate that forward-looking vision has a significant and positive effect on operational maintenance focus (β_{43}= 0.326, $p < 0.01$). Consistent with a study by Conger (1989), forward-looking vision is associated with effective organizational renewal because forward-looking vision focuses on the important process of organizational change, which is a key factor in creating propulsion for organizational development (Conger, 1989). ***Thus, hypothesis 9a is supported.***

Conversely, forward-looking vision does not affect environmental adaptation orientation (β_{63}= -0.020, $p > 0.10$), business development capability (β_{83}= -0.020, $p > 0.10$) and organizational innovation enhancement (β_{103}= -0.058, $p > 0.10$). Results from the analysis indicate that forward-looking vision influences the operational maintenance focus only with respect to the dimension of strategic renewal capability. Since, forward-looking vision is a determinant that defines the broad direction of organizational operations (Huff and Huff, 2000), it is not specific to adaptation or innovation. So it may not affect the other variables in the dimensions of the strategic renewal capability. ***Thus, hypotheses 9b, 9c and 9e are not supported.***

Secondly, the results suggest that learning utilization has a significantly positive effect on environmental adaptation orientation (β_{64}= 0.240, $p < 0.05$), business development capability (β_{84}= 0.203, $p < 0.05$) and organizational innovation enhancement (β_{104}= 0.356, $p < 0.01$). Likewise, numerous studies have shown that learning utilization promotes organizational performance improvement (Egan et al., 2004; Ellinger et al., 2002). Dodgeson (1993) stated that learning utilization improves an organization's ability to promote innovation activity efficiency, efficacy, and capabilities. Likewise, a study of Rothaermel and Deeds (2004) demonstrated that learning promotion positively affects new product development and innovation. In addition, scholars have found the link between learning and adaptation (Cheng et al., 2014). March (1991) suggested that the benefits of learning should enable firms to enhance their ability for better adaptation. ***Thus, hypotheses 10b, 10c and 10d are supported.***

However, with respect to the influence of learning utilization on operational maintenance focus, the findings reveal a non-significant result (β_{44}= -0.045, $p > 0.10$). Refaiy and Labib (2009) opined that learning utilization may not increase the

operational maintenance of an organization. They determined that for a firm to take advantage of learning requires elements of knowledge creation and sharing, referenced to managerial skills. In addition, results of the analysis indicated that learning utilization alone does not directly affect operational maintenance focus but will do so when there is interaction with competitive turbulence. This is consistent with the study by Wilden and Gudergan (2015) who stated that when competitive turbulence is high, an organization needs to take advantage of its accumulated learning to maintain performance. Therefore, learning utilization on its own cannot affect the operational maintenance focus but it requires knowledge management and the pressures of competitive turbulence. ***Thus, hypothesis 10a is not supported.***

Thirdly, the results reveal that a firm's resources complementarity significantly and positively affects operational maintenance focus (β_{45}= 0.290, $p < 0.01$), environmental adaptation orientation (β_{65}= 0.218, $p < 0.05$), business development capability (β_{85}= 0.232, $p < 0.05$) and organizational innovation enhancement (β_{105}= 0.230, $p > 0.10$). The studies of Junell and Ståhle (2011) found that loss of business resources may make an organization too slow for adaptation and innovation as it affects the capability for continuous growth and development of the organization's business. This is which is consistent with the results of this study. ***Thus, hypotheses 11a, 11b, 11c and 11d are supported.***

Fourthly, the results indicate that technology growth has a positive effect on operational maintenance focus (β_{46}= 0.261, $p < 0.01$) and environmental adaptation orientation (β_{66}= 0.219, $p < 0.05$). Many researchers found that continuous technology growth improves the performance of all functional processes of the organization (Glazer and Weiss, 1993; Jumpapang and Ussahawanitchakit, 2010). Prašnikar et al. (2008) agreed that the growth of technology, as an external factor, affects organizational change. It is able to put pressure on an organization's investment in organizational technology in order to be able to compete with competitors (Allred and Swan, 2004; Xue, Ray and Sambamurthy, 2012). To deal with rapid technological growth, organizations need to modify themselves by adaptation and development to keep pace with technological change (Jumpapang and Ussahawanitchakit, 2010; Rudez and Mihalic, 2007). ***Thus, hypotheses 12a and 12b are supported.***

Nevertheless, the results suggest that the business development capability is not influenced by technology growth (β_{86}= 0.031, p > 0.10) and organizational innovation enhancement (β_{106}= 0.104, p > 0.10). The results are inconsistent with Kochika and Ravindra (2007) argued that business development capability is affected by technological change. Because of some organizations may have limitations in terms of resources and hence cannot respond to take on new technology. Likewise, in this research, technology growth may not directly affect the development of capability and organizational innovation. However, when firms confront highly competitive turbulence, it is obvious that technology growth influences business development and organizational innovation because of the stimulation generated by competitive turbulence. Therefore, technology growth on its own cannot affect business development capability and organizational innovation enhancement as the pressures of competitive turbulence may also be required. ***Thus, hypotheses 12c and 12d are not supported.***

Lastly, the finding also exhibited that market change has positive significance for business development capability (β_{87}= 0.367, p < 0.01) and organizational innovation enhancement (β_{107}= 0.264, p < 0.01). Contingency theory explains that external factors are important to the survival of the organization because the changes of the outside environment impact on organizational performance. Hence, organizations must have a capability for the development of organization renewal (Anderson and Lanen, 1999; Gordon and Miller, 1976). Under the concept of the contingency theory, market change is an external factor driving the organization to have development and innovation to achieve survival and the sustainable development of the organization. ***Thus, hypotheses 13c and 13d are supported.*** However, the findings of market change are not significant for operational maintenance focus (β_{47}= 0.011, p > 0.10) and environmental adaptation orientation (β_{67}= -0.006, p > 0.10). Zahra, Neubaum, and Huse (2000) described the limitations of organizational resources, although organizations are urged to adapt by the external changes. However, the limitations of organizational resources are a problem for operational maintenance and adaptation. ***Thus, hypotheses 13a and 13b are not supported.***

With respect to the control variables, the results show that firm age is not significantly related to all dimensions of strategic renewal capability consisting

operational maintenance focus (β_{48}= -0.139, p > 0.10), environmental adaptation orientation (β_{68}= 0.128, p > 0.10), business development capability (β_{88}= 0.077, p > 0.10) and organizational innovation enhancement (β_{108}= -0.105, p > 0.10). Likewise, the findings of firm size are not significant for operational maintenance focus (β_{49}= 0.047, p > 0.10), environmental adaptation orientation (β_{69}= 0.149, p > 0.10), business development capability (β_{89}= -0.029, p > 0.10) and organizational innovation enhancement (β_{109}= 0.282, p < 0.10).

The Moderating Role of Competitive Turbulence

Competitive turbulence is examined as a moderating variable on the relationships between the antecedents and the dimensions of strategic renewal capability as shown in Figure 11. competitive turbulence is proposed to strengthen the relationships between the five antecedents and four dimensions of strategic renewal capability that are analyzed from the regression equation models 10, 12, 14 and 16. These relationships relied on hypotheses 14(a-d) to 18(a-d).

Firstly, the results suggest that competitive turbulence is only significant in reinforcing the relationship between forward-looking vision and operational maintenance focus (β_{56}= 0.138, p < 0.10).Wilden and Gudergan (2015) stated that when competitive turbulence is high, the organization will look for ways of modifying in order to advance marketing strategy dynamic capability. Hence competitive turbulence will moderate the relationships of forward-looking vision and operational maintenance focus. ***Thus, hypothesis 14a is supported***.

In contrast, competitive turbulence has no significance relative to the other dimensions of strategic renewal capability, namely environmental adaptation orientation (β_{76}= -0.085, p > 0.10), business development capability (β_{96}= 0.042, p > 0.10) and organizational innovation enhancement (β_{116}= -0.055, p > 0.01). Since, as discussed above, forward-looking vision is a factor that defines the broad direction of organizational operations (Huff and Huff, 2000), which it is not specific to adaptive or innovative responses.

Table 13 The Result of Antecedents on Each Dimension of Strategic Renewal Capability with Competitive Turbulence as a Moderator

Independent Variables	Dependent Variables							
	OMF	**OMF**	**EAO**	**EAO**	**BDC**	**BDC**	**OIE**	**OIE**
	Model 9	Model 10	Model 11	Model 12	Model 13	Model 14	Model 15	Model 16
	(H9a-13a)	**(H14a-18a)**	**(H9b-13b)**	**(H14d-18d)**	**(H9c-13c)**	**(H14c-18c)**	**(H9d-13d)**	**(H14d-18d)**
FLV	**.326*** (.085)**	**.318 *** (.085)**	-.020 (.102)	.017 (.105)	-.020 (.094)	-.007 (.096)	-.058 (.086)	-.100 (.086)
LUT	-.045 (.088)	-.008 (.089)	**.240** (.106)**	**.208* (.109)**	**.203** (.098)**	**.190* (.101)**	**.356*** (.089)**	**.269*** (.090)**
RCO	**.290*** (.089)**	**.336*** (.087)**	**.218** (.106)**	**.205* (.107)**	**.232** (.098)**	**.200** (.099)**	**.230*** (.090)**	**.205** (.089)**
TGR	**.261*** (.083)**	**.226*** (.085)**	**.219** (.100)**	**.188* (.105)**	.031 (.092)	.092 (.097)	.104 (.084)	**.221** (.087)**
MCH	.011 (.067)	.015 (.072)	-.006 (.081)	-.050 (.089)	**.367*** (.075)**	**.302*** (.082)**	**.264*** (0.68)**	**.263*** (.073)**
CTU		.006 (.063)		**.191** (.077)**		.016 (.071)		.072 (.064)
FLV x CTU		**.138* (.082)**		-.085 (.101)		.042 (.093)		-.055 (.084)
LUT x CTU		**.283*** (.104)**		.009 (.129)		-.085 (.118)		**-.330*** (.106)**
RCO x CTU		**-.359*** (.107)**		.142 (.132)		-.050 (.121)		.028 (.109)
TGR x CTU		**-.172* (.093)**		-.154 (.114)		**.275** (.105)**		**.349*** (.094)**
MCH x CTU		.081 (.064)		.070 (.078)		**-.136* (.072)**		-.091 (.065)
Firm Age (FAG)	-.139 (.124)	-.147 (.123)	.128 (.149)	.053 (.152)	.077 (.138)	.110 (.140)	-.105 (.126)	-.027 (.169)
Firm Size (FSI)	.047 (.142)	-.095 (.147)	.149 (.170)	.187 (.181)	-.029 (.157)	.007 (.166)	**.282* (.143)**	**.320** (.149)**
Adjusted R^2	.515	.552	.308	.324	.405	.427	.504	.539
Maximum VIF	2.481	4.369	2.481	4.369	2.481	4.369	2.481	4.369
Durbin-Watson	1.856	1.870	1.971	1972	1.779	1.872	2.228	2.117

Note: *** p < .01, ** p < .05, * p < .10

Although there is an increase in competitive turbulence, it may not affect these factors. Identically, many scholars suggested that when the firms faced with little competitive turbulence, firms may perform well, independent of whether they reconfigure their capabilities and reconfiguring (Auh and Menguc, 2005; Kohli and Jaworski 1990). ***Thus, hypotheses 14b, 14c, and 14d are not supported.***

Secondly, the results similarly indicate that competitive turbulence is significant in the relationships between learning utilization and operational maintenance focus (β_{57}= 0.283, $p < 0.10$). Consistent with study by Wilden and Gudergan (2015), stated that the organization need to modifying organization capabilities by taking advantage of the organizational knowledge, when competitive turbulence is high. ***Thus, hypothesis 15a is supported***.

However, competitive turbulence is not moderate the relationship between learning utilization and other of the dimensions of strategic renewal capability, namely environmental adaptation orientation (β_{77}= 0.009, $p > 0.10$) and business development capability (β_{97}= -0.085, $p > 0.10$). While it moderate the relationships between learning utilization and organizational innovation enhancement (β_{113}= -0.330, $p < 0.01$). The results of the analysis found that competitive turbulence in its moderator role does not affect environmental adaptation orientation but it may otherwise directly affect the environmental adaptation orientation. These findings are consistent with the study of Nancy (1990) who stated that adaptation in small firms is a multicomponent construct and that regulatory and competitive uncertainty differentially influences the adaptation process. Hence, in situations where there is competitive turbulence, the organization may not be able to take advantage form learning. ***Thus, hypotheses 15b, 15c and 15d are not supported.***

Thirdly, the results also demonstrate that competitive turbulence is only significant but negative in the relationship between resources complementarity and operational maintenance focus (β_{58}= -0.359, $p < 0.01$). In addition, competitive turbulence cannot strengthen the relationship between resources complementarity and other dimensions of strategic renewal capability, namely, environmental adaptation orientation (β_{78}= 0.142, $p > 0.01$), business development capability (β_{98}= 0-.050, $p > 0.01$) and organizational innovation enhancement (β_{118}= 0.028, $p > 0.01$). Wilden and Gudergan (2015) identify the resource limitations of organization that organizations

may have the sufficient resources to continue for organizational operation. The industry in which there is a difference in terms of the size of the organization, the smaller organizations have insufficient resources to compete. So, the competitive turbulence cannot affect the relationship between resources complementarity and other dimensions of strategic renewal capability by the difference of each organizational resource. ***Thus, 16a, 16b, 16c and 16d are not supported.***

Fourthly, the results show that competitive turbulence has a significant, moderating effect on the relationships among technology growth and the dimensions of strategic renewal capability, consisting of business development capability (β_{99}= 0.275, $p < 0.01$) and organizational innovation enhancement (β_{119}= 0.349, $p < 0.01$). Wilden and Gudergan (2015) suggested that organizations need to modify organizational capabilities when competitive turbulence is high. They have discussed the moderating effect of competitive turbulence on technological growth and dynamic capabilities. Likewise, this article identified that development capability and organizational innovation are the ability of dynamic capabilities. Hence, competitive turbulence has a moderating effect on the relationship between business development capability and organizational innovation enhancement. ***Thus, hypotheses 17c and 17d are supported.***

However, it has a significant but negative effect on operational maintenance focus (β_{59}= -0.172, $p < 0.10$). Wilden and Gudergan (2015) identify the resource limitations of organizations that organizations may have insufficient resources for organizational operations when competitive turbulence is high. This is because the difference is in terms of the size of the organization in the same industry. Similarly, competitive turbulence has no significant moderating effect on the relationships between technology growth and environmental adaptation orientation (β_{77}= -0.159, $p > 0.10$). Competitive turbulence reflects the degree of predictability of a changing competitive landscape (Auh and Menguc 2005), which organization may encounter risk for management strategy in adaptation (Ferrier, Smith and Grimm, 1999; Sirmon et al., 2010). Therefore, some organizations cannot environmentally adapt because of the differences in management strategy to deal with technology growth. ***Thus, hypotheses 17a and 17b are not supported.***

Finally, the moderating effect of competitive turbulence between market change and each dimension of strategic renewal capability has no positive significance on business development capability (β_{100}= -0.136, p < 0.10). Auh and Menguc (2005) argued that when faced with little competitive turbulence, firms may perform well, independent of whether they reconfigure their capabilities by reconfiguring processes. On the other hand, increasing competitive turbulence may reduce capabilities and reconfigure processes. Competitive turbulence has no significant effect for other dimensions of strategic renewal capability, namely, operational maintenance focus (β_{60}= 0.081, p > 0.10), environmental adaptation orientation (β_{80}= 0.070, p > 0.10) and organizational innovation enhancement (β_{120}= -0.091, p > 0.01). Zahra et al. (2000) describe the limitations of organizational resources, although organizations are urged to adapt by the external changes. However, the limitations of organizational resources are the problem for the operation of the organization. ***Thus, hypotheses 18a, 18b, 18c and 18d are not supported.***

For the control variables, firm age has no significant influences on the moderating effect of competitive turbulence on the relationships among strategic renewal capability's antecedents, operational maintenance focus (β_{60}= -0.147, p > 0.10), environmental adaptation orientation (β_{79}= 0.053, p > 0.10) business development capability (β_{98}= 0.110, p > 0.10) and organizational innovation enhancement (β_{117}= -.027, p < 0.01). Moreover, firm size also illustrates no significant influences on the moderating effect of competitive turbulence on the relationships among many dimensions of strategic renewal capability, namely, operational maintenance focus (β_{61}= -0.095, p > 0.10), environmental adaptation orientation (β_{80}= 0.187, p > 0.10) and business development capability (β_{106}= 0.007, p > 0.10). However, competitive turbulence can increase the relationships between firm size and organizational innovation enhancement (β_{118}= 320, p < 0.05).

Summary

This chapter details the results of analysis and presents a discussion of each of the eighteen hypotheses that were tested.

Firstly, key respondent characteristics, sample characteristics, and a correlation matrix among all variables have been described. The results of the hypothesis testing explained by specific correlation analysis in each part of the conceptual model, the OLS are regression analysis finding, and the discussions of critical issues. This research has generated some significant findings which are summarized as follows: (1) Operational maintenance focus, environmental adaptation orientation, business development capability and organizational innovation enhancement are important dimensions for developing strategic renewal capability to increase its outcomes. (2) Both internal factors, including forward-looking vision, learning utilization and resources complementarity, as well as external factors, including technology growth and market change, have a positive relationship with each dimension of strategic renewal capability. (3) Competitive turbulence only appears to increase the effect of firm resource readiness on brand vision focus. In conclusion, the results of 18 hypotheses testing showed that were five fully-supported (hypotheses 1, 4, 5, 7 and 8), ten were partially-supported (hypotheses 2, 3, 6, 9, 10, 11, 12, 13, 14, 15 and 17) and there were three unsupported hypotheses (hypotheses 16 and 18). Finally, Table 14 presents a summary of hypothesized relationships. The next chapter presents the conclusion of this research, theoretical contributions, managerial implications, limitations, and research directions for further research.

Table 14 Summary of Hypothesized Relationships

Hypotheses	Description of Hypothesized Relationships	Results
H1a	Operational maintenance focus will positively relate to goal achievement excellence.	supported
H1b	Operational maintenance focus will positively relate to stakeholder expectations fulfillment.	supported
H1c	Operational maintenance focus will positively relate to dynamic corporate competitiveness.	Supported
H1d	Operational maintenance focus will positively relate to organizational survival.	supported
H1e	Operational maintenance focus will positively relate to firm sustainability.	Not supported
H2a	Environmental adaptation orientation will positively relate to goal achievement excellence.	supported
H2b	Environmental adaptation orientation will positively relate to stakeholder expectations fulfillment.	Not Supported
H2c	Environmental adaptation orientation will positively relate to dynamic corporate competitiveness.	Not supported
H2d	Environmental adaptation orientation will positively relate to organizational survival	Supported
H2e	Environmental adaptation will positively relate to firm sustainability.	Supported
H3a	Business development capability will positively relate to goal achievement excellence.	Not Supported
H3b	Business development capability will positively relate to stakeholder expectations fulfillment.	Supported
H3c	Business development capability will positively relate to dynamic corporate competitiveness.	Not Supported
H3d	Business development capability will positively relate to organizational survival.	Supported

Table 14 Summary of Hypothesized Relationships (continued)

Hypotheses	Description of Hypothesized Relationships	Results
H3e	Business development capability will positively relate to firm sustainability.	Supported
H4a	Organizational innovation enhancement will positively relate to goal achievement excellence.	Supported
H4b	Organizational innovation enhancement will positively relate to stakeholder expectations fulfillment.	Supported
H4c	Organizational innovation enhancement will positively relate to dynamic corporate competitiveness.	Supported
H4d	Organizational innovation enhancement will positively relate to organizational survival.	Supported
H4e	Organizational innovation enhancement will positively relate to firm sustainability.	Supported
H5a	Goal achievement excellence will positively relate to dynamic corporate competitiveness.	Supported
H5b	Goal achievement excellence will positively relate to organizational survival.	Supported
H6a	Stakeholder expectations fulfillment will positively relate to dynamic corporate competitiveness.	Supported
H6b	Stakeholder expectations fulfillment will positively relate to organizational survival.	Not Supported
H7	Dynamic corporate competitiveness will positively relate to organizational survival.	Supported
H8	Organizational survival will positively relate to organizational survival.	Supported
H9a	Forward-looking vision will positively relate to operational maintenance focus.	Supported
H9b	Forward-looking vision will positively relate to environmental adaptation orientation.	Not Supported

Table 14 Summary of Hypothesized Relationships (continued)

Hypotheses	Description of Hypothesized Relationships	Results
H9c	Forward-looking vision will positively relate to business development capability.	Not Supported
H9d	Forward-looking vision will positively relate to organizational innovation enhancement.	Not Supported
H10a	Learning utilization will positively relate to operational maintenance focus.	Not Supported
H10b	Learning utilization will positively relate to environmental adaptation orientation.	Supported
H10c	Learning utilization vision will positively relate to business development capability.	Supported
H10d	Learning utilization will positively relate to organizational innovation enhancement.	Supported
H11a	Resource complementarity will positively relate to operational maintenance focus.	Supported
H11b	Resource complementarity will positively relate to environmental adaptation orientation.	Supported
H11c	Resource complementarity will positively relate to business development capability.	Supported
H11d	Resource complementarity will positively relate to organizational innovation enhancement.	Supported
H12a	Technology growth will positively relate to operational maintenance focus.	Supported
H12b	Technology growth will positively relate to environmental adaptation orientation.	Supported
H12c	Technology growth vision will positively relate to business development capability.	Not Supported
H12d	Technology growth will positively relate to organizational innovation enhancement.	Not Supported

Table 14 Summary of Hypothesized Relationships (continued)

Hypotheses	Description of Hypothesized Relationships	Results
H13a	Market change will positively relate to operational maintenance focus.	Not Supported
H13b	Market change will positively relate to environmental adaptation orientation.	Not Supported
H13c	Market change vision will positively relate to business development capability.	Supported
H13d	Market change will positively relate to organizational innovation enhancement.	Supported
H14a	Competitive turbulence positively moderates the relationships between forward-looking vision and operational maintenance focus.	Supported
H14b	Competitive turbulence positively moderates the relationships between forward-looking vision and environmental adaptation orientation.	Not Supported
H14c	Competitive turbulence positively moderates the relationships between forward-looking vision and business development capability.	Not Supported
H14d	Competitive turbulence positively moderates the relationships between forward-looking vision and organizational innovation enhancement.	Not Supported
H15a	Competitive turbulence positively moderates the relationships between learning utilization and operational maintenance focus.	Supported
H15b	Competitive turbulence positively moderates the relationships between learning utilization and environmental adaptation orientation.	Not Supported
H15c	Competitive turbulence positively moderates the relationships between learning utilization and business development capability.	Not Supported

Table 14 Summary of Hypothesized Relationships (continued)

Hypotheses	Description of Hypothesized Relationships	Results
H15d	Competitive turbulence positively moderates the relationships between learning utilization and organizational innovation enhancement.	Not Supported
H16a	Competitive turbulence positively moderates the relationships between resource complementarity and operational maintenance focus.	Not Supported
H16b	Competitive turbulence positively moderates the relationships between resource complementarity and environmental adaptation orientation.	Not Supported
H16c	Competitive turbulence positively moderates the relationships between resource complementarity and business development capability.	Not Supported
H16d	Competitive turbulence positively moderates the relationships between resource complementarity and organizational innovation enhancement.	Not Supported
H17a	Competitive turbulence positively moderates the relationships between technology growth and operational maintenance focus.	Not Supported
H17b	Competitive turbulence positively moderates the relationships between technology growth and environmental adaptation orientation.	Not Supported
H17c	Competitive turbulence positively moderates the relationships between technology growth and business development capability.	Supported
H17d	Competitive turbulence positively moderates the relationships between technology growth and organizational innovation enhancement.	Supported

Table 14 Summary of Hypothesized Relationships (continued)

Hypotheses	Description of Hypothesized Relationships	Results
H18a	Competitive turbulence positively moderates the relationships between market change and operational maintenance focus.	Not Supported
H18b	Competitive turbulence positively moderates the relationships between market change and environmental adaptation orientation.	Not Supported
H18c	Competitive turbulence positively moderates the relationships between market change and business development capability.	Not Supported
H18d	Competitive turbulence positively moderates the relationships between market change and organizational innovation enhancement.	Not Supported

CHAPTER V

CONCLUSIONS

The previous chapter described respondent characteristics, the descriptive statistics and the correlation matrix applied in the research, along with the results of testing the hypotheses. This chapter proposes to explain the conclusions, the theoretical and managerial contributions, and the limitations of this research, concluding with suggestions for further research.

Summary of Results

This research has investigated the effects of strategic renewal capability within software businesses in Thailand, reviewing goal achievement excellence, stakeholder expectations fulfillment, dynamic corporate competitiveness, organizational survival and firm sustainability. Furthermore, forward-looking vision, learning utilization, resource complementarity, technology growth, and market change as the antecedents of strategic renewal capability have been considered. Moreover, the moderating variables were tested. The significant moderating variable is competitive turbulence which has a positive effect on the relationships of the four antecedent variables and the dimensions of strategic renewal capability.

The key research question considered in this research is, “How does strategic renewal capability relate to firm sustainability?” Five specific research questions were proposed as follows: 1) How do each of the four dimensions of strategic renewal capability relate to goal achievement excellence, stakeholder expectations fulfillment, dynamic corporate competitiveness, organizational survival and firm sustainability? 2) How do goal achievement excellence, stakeholder expectations fulfillment and dynamic corporate competitiveness relate to organizational survival? 3) How does organizational survival relate to firm sustainability? 4) How do forward-looking vision, learning utilization, resource complementarity, technology growth and market change relate to each of the four dimensions of strategic renewal capability? 5) How does competitive turbulence moderate the relationships among forward-looking vision, learning

utilization, resource complementarity, technology growth, market change, and each of the four dimensions of organizational renewal capability?

The conceptual model utilized in this research is explained by referencing two theories, the dynamic capability theory and contingency theory. Both theorizations show the relationships among the dimensions of strategic renewal capability, its antecedents, and its consequential constructs. First, dynamic capability theory, was used to explain the relationship between strategic renewal capability and its outcomes, whilst the contingency theory was applied to describe the relationship between antecedents, and the moderating effect of competitive turbulence.

For purposes of this research, software businesses were selected against three criteria. Firstly, firms having characteristics suggesting strategic renewal capability were indicated by a focus on firm survival under competitive turbulence and environmental uncertainty. Secondly, those firms that exhibit maintenance, adaptation, development and innovation characteristics to achieve sustainable development, and thirdly, those firms having a record of business growth within Thailand.

The target population was selected from the Software Industry Promotion Agency (SIPA) data base as March 25th, 2016 (http://www.sipa.or.th). A total of 855 questionnaires were mailed to the chief executive officer (CEO) or executive director determined to be the appropriate key informant. This research analyzed the data of respondents by using multiple regression as the main analysis instrument. The overall result concluded that most of the hypotheses tested were partially supported. The results of each hypothesis according to each specific research question are summarized as follows:

The relationships among the dimensions of strategic renewal capability and its consequences, as related to the first research question, suggest that operational maintenance focus significantly and positively relates to goal achievement excellence, stakeholder expectations fulfillment, dynamic corporate competitiveness, organizational survival, and firm sustainability. Environmental adaptation orientation has a similarly positive effect on goal achievement excellence, organizational survival and firm sustainability. Business development capability has a positive effect on stakeholder expectations fulfillment, organizational survival and firm sustainability. Organizational innovation enhancement also has a positive effect on goal achievement, stakeholder

expectation fulfillment, dynamic corporate competitiveness, organizational survival and firm sustainability. With respect to the second research question, the results indicate that goal achievement excellence and dynamic corporate competitiveness have a significant and positive effect on organizational survival. The findings derived from the third research question suggest that organizational survival significantly and positively influences firm sustainability.

For the relationship between the antecedents and strategic renewal capability, and with regard to the fourth specific research question, the findings indicate that forward-looking vision only has a significantly positive effect on operational maintenance focus. Learning utilization positively affects environmental adaptation orientation, business development capability and organizational innovation enhancement. Resources complementarity significantly and positively affects operational maintenance focus, environmental adaptation orientation and business development capability. Technology growth has a positive effect on operational maintenance focus and environmental adaptation orientation. Lastly, the finding also exhibited that market change has positive and significance on business development capability and organizational innovation enhancement.

The role of the moderating factors, in terms of the five research questions, demonstrate that competitive turbulence plays a vital moderating role relative to the relationship between forward-looking vision and operational maintenance focus. Furthermore, competitive turbulence strengthens the effect of technology growth and the dimensions of strategic renewal capability, consisting of business development capability and organizational innovation enhancement.

On the whole, strategic renewal capability is important for all positive outcomes that lead to organizational survival and firm sustainability. Operational maintenance focus, environmental adaptation orientation, business development capability and organizational innovation enhancement appear to be important components of strategic renewal capability, which lead to the increase of goal achievement excellence, stakeholder expectations fulfillment, dynamic corporate competitiveness, organizational survival and firm sustainability. Additionally, competitive turbulence is an important factor influencing the degree of strategic renewal capability by strengthening the effect of forward-looking vision, learning utilization,

resource complementarity, technology growth, and market change on the dimensions of the strategic renewal capability.

To simplify the presentation of the above, conclusions are tabulated and summarized as shown in Table 15 below.

Table 15 A Summary of Results Relating to all Research Questions

Research Questions	Hypotheses	Results	Conclusions
(1) How does each of the four dimensions of strategic renewal capability relate to goal achievement excellence, stakeholder expectations fulfillment, dynamic corporate competitiveness, organizational survival and firm sustainability?	H1a-e H2a-e H3a-e H4a-e	- Operational maintenance focus has a positive effect on goal achievement excellence, stakeholder expectations fulfillment, stakeholder expectations fulfillment, dynamic corporate competitiveness, organizational survival and firm sustainability. - Environmental adaptation orientation has a positive effect on goal achievement excellence, organizational survival and firm sustainability. - Business development capability has a positive effect stakeholder expectations fulfillment, organizational survival and firm sustainability. - Organizational innovation enhancement also has a positive effect on goal achievement, stakeholder expectation fulfillment, dynamic corporate competitiveness, organizational survival and firm sustainability.	Partially supported
(2) How do goal achievement excellence, stakeholder expectations fulfillment and dynamic corporate competitiveness relate to organizational survival?	H5a-b H6a-b H7	- goal achievement excellence has a significant and positive effect on dynamic corporate competitiveness and organizational survival - stakeholder expectations fulfillment has a positive effect on dynamic corporate competitiveness. - dynamic corporate competitiveness significantly and positively relates to organizational survival.	Partially supported

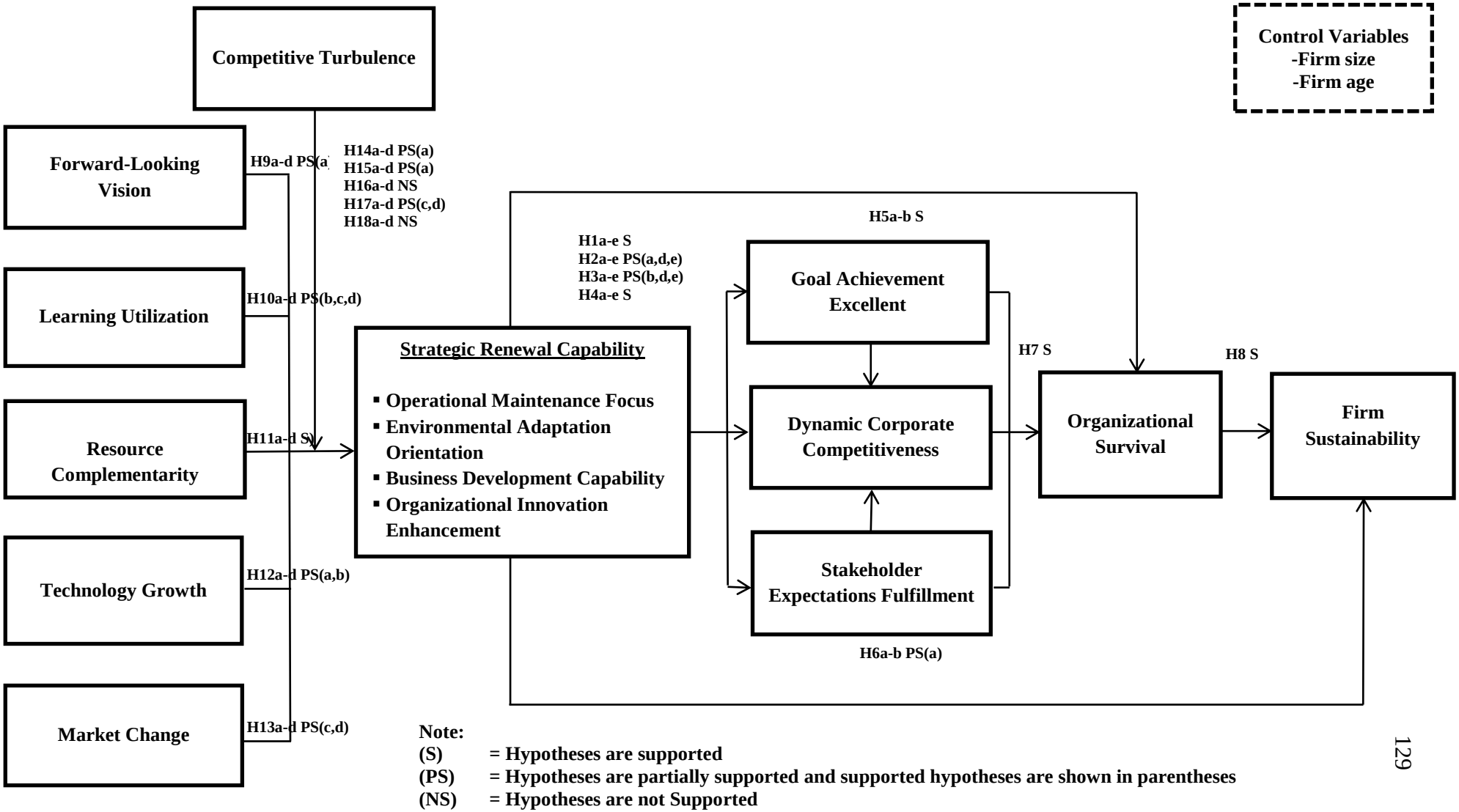
Table 15 A Summary of Results Relating to all Research Questions (continued)

Research Questions	Hypotheses	Results	Conclusions
(3) How docs organizational survival relate to firm sustainability	H8	- Organizational survival and positively affects firm sustainability.	Fully Supported
(4) How do forward-looking vision, learning utilization, resource complementarity, technology growth and market change relate to each of the four dimensions of strategic renewal capability?	H9a-d H10a-d H11a-d H12a-d H13a-d	- Forward-looking vision has a significant and positive effect on operational maintenance focus. - Learning utilization positively affects environmental adaptation orientation, business development capability and organizational innovation enhancement. - Resources complementarity significantly and positively affects operational maintenance focus, environmental adaptation orientation and business development capability. - Technology growth has a positive effect on operational maintenance focus and environmental adaptation orientation. - Market change has positive and significance on business development capability and organizational innovation enhancement.	Partially Supported

Table 15 A Summary of Results Relating to all Research Questions (continued)

Research Questions	Hypotheses	Results	Conclusions
(5) How does competitive turbulence moderate the relationships among	H14a-d H15a-d H16a-d	- competitive turbulence is significant in reinforcing the relationship between forward-looking vision and learning utilization and operational maintenance focus.	Partially Supported
forward-looking vision, learning utilization, resource complementarity, technology growth, market change, and each of the four dimensions of organizational renewal capability?	H17a-d H18a-d	- competitive turbulence is significant in reinforcing the relationship between learning utilization and operational maintenance focus. - competitive turbulence strengthens the effect of technology growth on the business development capability and organizational innovation enhancement.	

Figure 10: A Summary of the Results of the Hypotheses Testing



Theoretical and Managerial Contributions

Theoretical Contributions

This paper attempts to expand knowledge regarding the importance of the use of strategic renewal capability in an organization to promote firm sustainability in an environment of intensive competition. Of significance, two theoretical contributions of this research relate to conceptualizing a comprehensive view of strategic renewal capability as a multi-dimensional construct, which are presented as newly developed constructs and dimensions. This research utilized dynamic capability theory to expand the dimensions of strategic renewal capability. The results of this research suggest two major theoretical contributions to the strategic renewal capability literature as follows:-

Firstly, the research presents a new dimension of strategic renewal capability which is at variance with earlier renewal capability literature. This research are integrated the concepts in the past into the newly dimensions of strategic renewal capability. This research postulates that the dimensions of strategic renewal capability incorporate operational maintenance focus, environmental adaptation orientation, business development capability and organizational innovation enhancement.

This research also indicates that dynamic capabilities involve specific strategic processes within organizations to build, integrate, and reconfigure competencies to succeed in environmental change. Likewise, the results of this research confirm the core attributes of dynamic capability which lead a firm to achieve sustainable competitive advantage. For this reason, strategic renewal capability enhances a firm's ability to achieve its goals and, at the same time, maintain its survival and sustainability.

Secondly, this research has helped broaden understandings of the concepts underpinning strategic renewal capability by offering a new dimension of strategic renewal capability in terms of operational maintenance focus, environmental adaptation orientation, business development capability and organizational innovation enhancement. Furthermore, this research has emphasized the importance of these four dimensions and in particular, operational maintenance focus and organizational innovation enhancement which illustrate positive relationships in increasing goal achievement excellence, stakeholder expectations fulfillment and dynamic corporate competiveness. Significantly, these factors are critical to organizational survival and

firm sustainability. Moreover, competitive turbulence moderates the relationships between forward-looking vision and operational maintenance focus. Competitive turbulence moderates the relationships among technology growth on business development capability and organizational innovation enhancement.

In contrast, competitive turbulence has a negative, moderating effect on the relationship between learning utilization and organizational innovation enhancement, resource complementarity and operational maintenance focus; technology growth and operational maintenance focus; and market change and business development capability. The results of the analysis support the finding that competitive turbulence stimulates an organization to create a renewal capability, and in the case of a large organization, this may be without limitations in terms of its resources. On the other hand, if an organization has limited resources, this will have negative consequences. Limited availability of resources, whether in terms of capital or personnel, will impact an organization's ability to adapt to address competitive turbulence, thus reducing renewal capability.

Finally, in relationship to promoting strategic renewal capability, this research suggested that forward-looking vision, learning utilization, resources complementarity, technology growth, and market change, positively influence strategic renewal capability.

Managerial Contributions

There are several managerial implications with respect to managers facing strong pressure from aggressive and volatile competition. Where a firm is under pressure, internally or externally, to modify itself to survive and prosper, strategies are needed to lead to the achievement of sustainable competitive advantage, and hence, firm sustainability. Based on this research, there are several strategies that top management can adopt.

Firstly, managers should focus on a management philosophy that promotes the maintenance of operational efficiency at all times by monitoring personnel continuously and evaluating their performance to ensure they are operating effectively within the functional environment of the organization. In addition, managers should encourage organizational innovation by introducing new operating methods and encouraging new

techniques, technology and approaches, with an emphasis on education, research and development of new products. In this regard management needs to recognize the importance of environmental adaptation, to promote the renewal capability of the organization. Moreover, this analysis demonstrates that strategic renewal capability promotes goal achievement, expectations fulfillment and competitiveness, and these factors lead to an organizations sustainability in constantly changing environments.

Secondly, these findings reveal that firms should focus on goal achievement excellent, stakeholder expectations fulfillment and dynamic corporate competitiveness as factors supporting organizational survival in constantly changing environments. The result also indicated that operational maintenance focus, organizational innovation enhancement and organizational survival are a powerful promotes firm sustainability. Therefore, managers have to enhance these abilities for sustainability of firm

Thirdly,managers must pay attention to activities that support their firms' renewal capabilities, such as organizational vision and learning. The vision promoted by top management needs to identify and respond to change through improving internal performance or by such strategies as introducing innovative products. Moreover learning utilization can enhance managers' decision-making abilities. In addition, managers must take into account other external factors that encourage the renewal capability such as technology growth and market change.

Finally, managers should assist their employees by ensuring that they have the necessary resources to respond to internal and external challenges. The availability of resources within an organization is one of the most essential determinants of renewal capability. Likewise, managers must take into account external factors that encourage their renewal capability by responding to technology growth and market change. Yet at the same time they must be aware of the possibility of uncontrollable external influences such as competitive turbulence.

Limitations of Research and Future Research Directions

Limitations

This research has a number of limitations. Firstly, the software industry has a high turnover rate as many firms drop out of the industry while at the same time new firms are always entering this industry. Hence the membership list of the Software Industry Promotion Agency (SIPA) is not always up to date. Therefore, this limitation may be reflected in the number of undelivered questionnaires. Secondly, as the single population, the focus of this research was only selected from software businesses in Thailand, this may limit its generalizability. Finally, as firm size is a control variable which appears to be statistically significant on the capabilities of an organization, it should be noted that the firms in this study ranged from being small and medium sized enterprises to being much larger organizations. .

Future Research Directions

The results of this research , both its findings and its limitations, suggest the need for future research both within and across the software industry in Thailand but also in other countries and with reference to other industries operating in highly turbulent environments. Firstly, this may lead to future comparative studies across related corporate sectors and such research could expand the generalizability of conclusions of this research. Secondly, alternative research methodologies might be employed to examine the conceptual framework of strategic renewal capability utilized in this study. For example, qualitative in-depth interviews may help to explore and up-date management perspectives. Applying a qualitative methodology might stimulate a range of differing responses leading to a more comprehensive understanding of strategic innovation capability. Moreover, the use of alternative statistical techniques, such as Structural Equation Modelling (SEM) may highlight hitherto hidden relationships between all constructs within the conceptual framework of strategic innovation capability. Thirdly, the newly-proposed dimensions of strategic renewal capability might be reconfigured in relation to other industry environments and conditions. In addition to the foregoing, it may be beneficial to introduce additional variables such as the relevance of employee capabilities and competencies to the renewal capabilities of

firms. Finally, future research might introduce additional moderating factors such as the relevance of levels of business acumen displayed by managers or, at a more complex and controversial level, the long and short-term effects of governmental financial interventions on organizations intended to promote or supplement strategic renewal. A clear conclusion is that parallel or comparative studies of other organizations in Thailand, or elsewhere, might be usefully undertaken referenced to this research.

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APPENDICES

APPENDIX A

Respondent's Characteristic

Table A1 Demographic Characteristics of Respondents

Description	Categories	Frequency	Percentage
Gender	Male	100	64.10
	Female	56	35.90
Total		156	100.00
Age	Less than 30 years old	14	8.97
	30 – 40 years old 4	65	41.67
	1 – 50 years old	44	28.21
	More than 50 years old	33	21.15
Total		156	100.00
Marital Status	Single	68	43.59
	Married	72	46.15
	Divorced/Separated	16	10.26
Total		156	100.00
Level of Education	Bachelor's degree or lower	71	45.51
	Higher than Bachelor's degree	85	54.49
Total		156	100.00
Working experiences	Less than 5 years	16	10.26
	5 – 10 years	19	12.18
	11 – 15 years	31	19.87
	More than 15 years	90	57.69
Total		156	100.00
Average revenues per month	Less than50,000 Baht	50	32.05
	50,000 – 70,000 Baht	33	21.15
	70,001 – 90,000 Baht	20	12.82
	More than 90,000 Baht	53	33.98
Total		156	100.00
Current Position	Executive	83	53.21
	Managing director	19	12.18
	Other	54	34.62
Total		156	100.00

Table A2: Characteristics of Software Businesses

Description	Categories	Frequency	Percentage
Business Entity	Limited Companies	149	95.51
	Partnership	7	4.49
Total		156	100.00
Business Types	Enterprise Software	109	69.87
	Digital Software	14	8.97
	Embedded Software	10	6.41
	Others	23	14.75
Total		156	100.00
Nature of Production	Made to order Production by the business plan	87	55.77
		69	44.23
Total		156	100.00
Working Capital	Less than 10,000,000 Baht	118	75.64
	10,000,000 - 15,000,000 Baht	19	12.18
	15,000,001 - 20,000,000 Baht	7	4.49
	More than 20,000,000 Baht	12	7.69
Total		156	100.00
Number of full time employees	Less than 25	101	64.74
	25 – 50	21	13.46
	51 – 75	7	4.49
	More than 75	27	17.31
Total		156	100.00
The period of time in business	Less than 5 Years	13	8.34
	5 – 10 Years	38	24.36
	11 – 15 Years	43	27.56
	More than 15 Years	62	39.74
Total		156	100.00

Table A2: Characteristics of Software Businesses (continued)

Description	Categories	Frequency	Percentage
Average annual income	Less than 5,000,000 Baht	45	28.85
	5,000,000 - 10,000,000 Baht	22	14.10
	10,000,001 - 15,000,000 Baht	18	11.54
	More than 15,000,000 Baht	71	45.51
Total		156	100.00
A member of the Software Industry Promotion Agency of Thailand	Yes	55	35.26
	Never	101	64.74
Total		156	100.00

APPENDIX B

Test of Non-Response Bias

Table B1 Test of Non-Response Bias

Comparison	Levene's Test for Equality of Variances		t-test for Equality of Means		
	F	Sig.	t	df	Sig.
Business Entity: **-First Group** **-Second Group**	**5.545**	**.020**	**-1.158**	**131.653**	**.249**
Business Types: **-First Group** **-Second Group**	**.135**	**.713**	**-.215**	**154**	**.830**
Working Capital: **-First Group** **-Second Group**	**.041**	**.839**	**.089**	**154**	**.929**
Number of full time employees: **-First Group** **-Second Group**	**1.170**	**.281**	**.694**	**154**	**.489**
The period of time in business: **-First Group** **-Second Group**	**.277**	**.669**	**.808**	**154**	**.421**
Average Annual Incomes: **-First Group** **-Second Group**	**.328**	**.568**	**-.923**	**154**	**.358**

APPENDIX C

Reliability Analyses and Factor Loading; Pre-Test

Table C1 Item Factor Loading and Reliability Analyses in Pre-Test[a]

Constructs	Items	Factor Loading	Reliability (Alpha)
Operational Maintenance Focus (OMF)	OMF1	.746	.818
	OMF 2	.726	
	OMF 3	.727	
	OMF 4	.817	
	OMF 5	.802	
Environmental Adaptation Orientation (EAO)	EAO 1	.908	.895
	EAO 2	.885	
	EAO 3	.877	.
	EAO 4	.824	
Business Development Capability (BDC)	BDC 1	.809	885
	BDC 2	.878	
	BDC 3	.847	
	BDC 4	.829	
	BDC 5	.795	
Organizational Innovation Enhancement (OIE)	OIE 1	.794	.868
	OIE 2	.897	
	OIE 3	.845	
	OIE 4	.896	
Goal Achievement Excellence (GAE)	GAE 1	.803	.884
	GAE 2	.671	
	GAE 3	.898	
	GAE 4	.601	
Stakeholder Expectations Fulfillment (SEF)	SEF 1	.882	.794
	SEF 2	.659	
	SEF 3	.749	
	SEF 4	.881	

Table C1 Item Factor Loading and Reliability Analyses in Pre-Test[a] (continued)

Constructs	Items	Factor Loading	Reliability (Alpha)
Dynamic Corporate Competitiveness (DCC)	DCC 1	.870	.916
	DCC 2	.857	
	DCC 3	.891	
	DCC 4	.904	
	DCC 5	.843	
Organizational Survival (OSV)	OSV 1	.839	.915
	OSV 2	.875	
	OSV 3	.875	
	OSV 4	.859	
	OSV 5	.885	
Firm Sustainability (FSU)	FSU 1	.912	.941
	FSU 2	.881	
	FSU 3	.916	
	FSU 4	.893	
	FSU 5	.903	
Forward-Looking Vision (FLV)	FLV 1	.839	.903
	FLV 2	.881	
	FLV 3	.853	
	FLV 4	.845	
	FLV 5	.839	
Learning Utilization (LUT)	LUT 1	.682	.812
	LUT 2	.761	
	LUT 3	.870	.
	LUT 4	.867	
	LUT 5	.628	
Resources Complementarity (RCO)	BLC 1	.702	845
	BLC 2	.844	

Table C1 Item Factor Loading and Reliability Analyses in Pre-Test[a] (continued)

Constructs	Items	Factor Loading	Reliability (Alpha)
Resources Complementarity (RCO)	BLC 3	.760	
	BLC 4	.824	
	BLC 5	.820	
Technology Growth (TGR)	TGR 1	.813	.902
	TGR 2	.897	
	TGR 3	.899	.
	TGR 4	.856	
	TGR 5	.778	
Market Change (MCH)	MCH 1	.744	837
	MCH 2	.897	
	MCH 3	.803	
	MCH 4	.835	
Competitive Turbulence (CTU)	CTU 1	.967	.916
	CTU 2	.910	
	CTU 3	.899	
	CTU 4	.843	

[a]n=30

APPENDIX D

Diagnosis of PrimaryAssumption for Regression Analysis

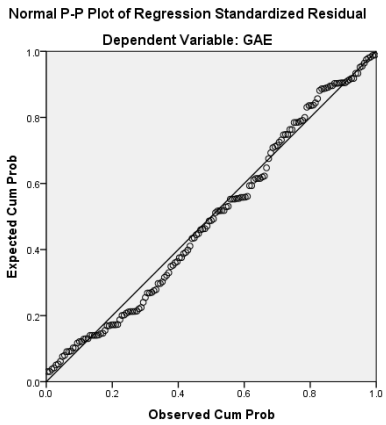
Autocorrelation

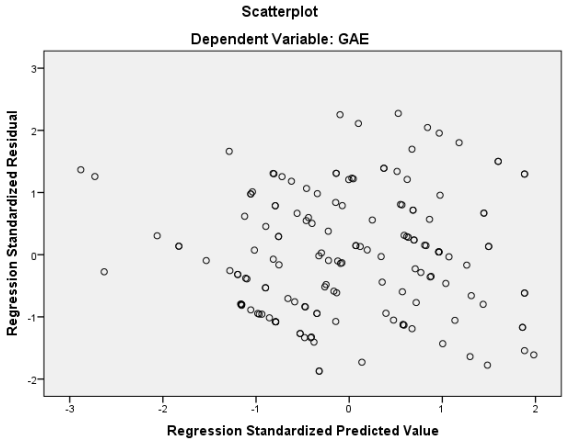
Durbin and Watson statistic is employed to detect the presence of autocorrelation (a relationship between values separated from each other by a given time lag) in the residuals from a regression analysis. Critical values 1.50 – 2.50 indicating autocorrelation is not a problem(Durbin and Watson, 1971). From the results in Table E1 below, we can assume that there is no first order linear auto-correlation in our multiple linear regression data.

Table E1 Durbin and Watson Statistic

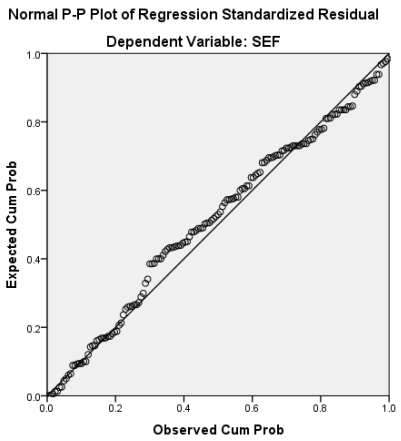
Equation	R	R Square	Adjusted R Square	Durbin - Watson value
1	0.591	0.35	0.323	2.142
2	0.683	0.466	0.445	1.807
3	0.638	0.407	0.383	1.837
4	0.805	0.648	0.639	2.005
5	0.597	0.357	0.334	1.764
6	0.812	0.660	0.648	1.834
7	0.616	0.380	0.355	1.963
8	0.616	0.380	0.355	1.963
9	0.733	0.537	0.515	1.856
10	0.768	0.590	0.552	1.870
11	0.583	0.340	0.308	1.971
12	0.617	0.381	0.324	1.972
13	0.658	0.433	0.405	1.779
14	0.690	0.475	0.427	1.872
15	0.726	0.527	0.504	2.228
16	0.760	0.578	0.539	2.117

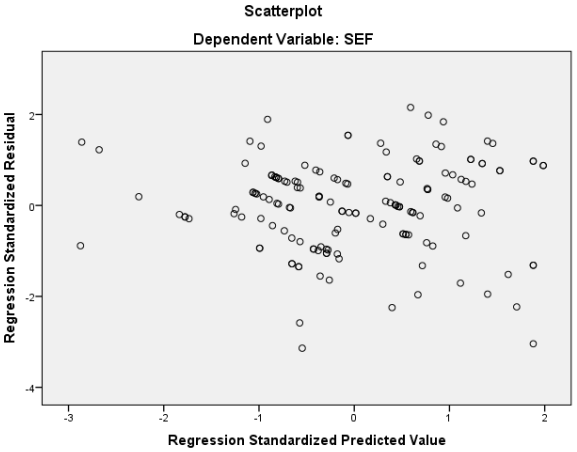
Normality and Heteroscedasticity



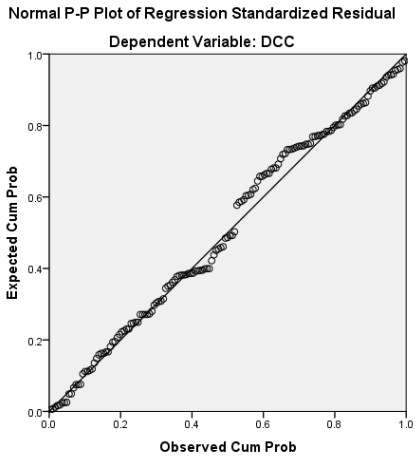


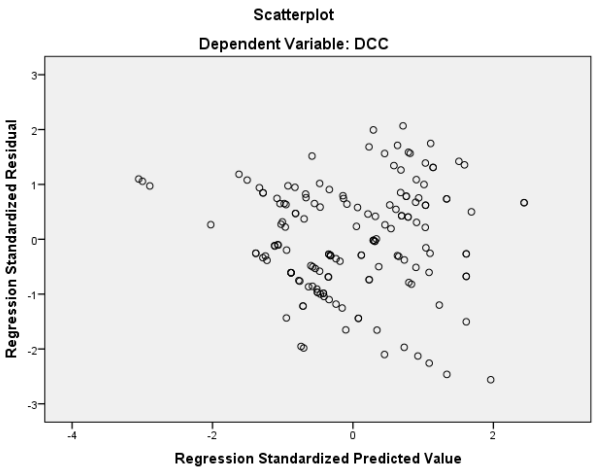
Eq.1: $GAE=\alpha_1 + \beta_1 OMF + \beta_2 EAO + \beta_3 BDC + \beta_4 OIE + \beta_5 FAG + \beta_6 FSI + \varepsilon_1$



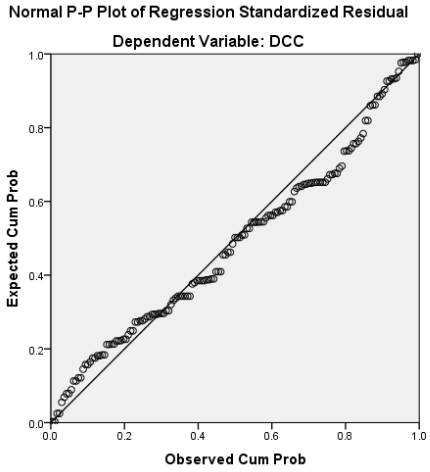


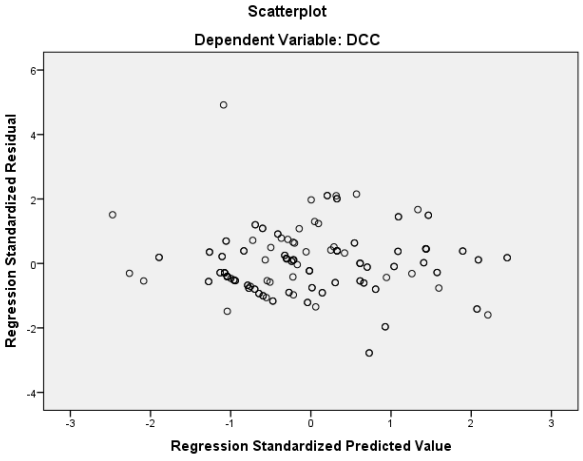
Eq.2: $SEF = \alpha_2 + \beta_7 OMF + \beta_8 EAO + \beta_9 BDC + \beta_{10} OIE + \beta_{11} FAG + \beta_{12} FSI + \varepsilon_2$



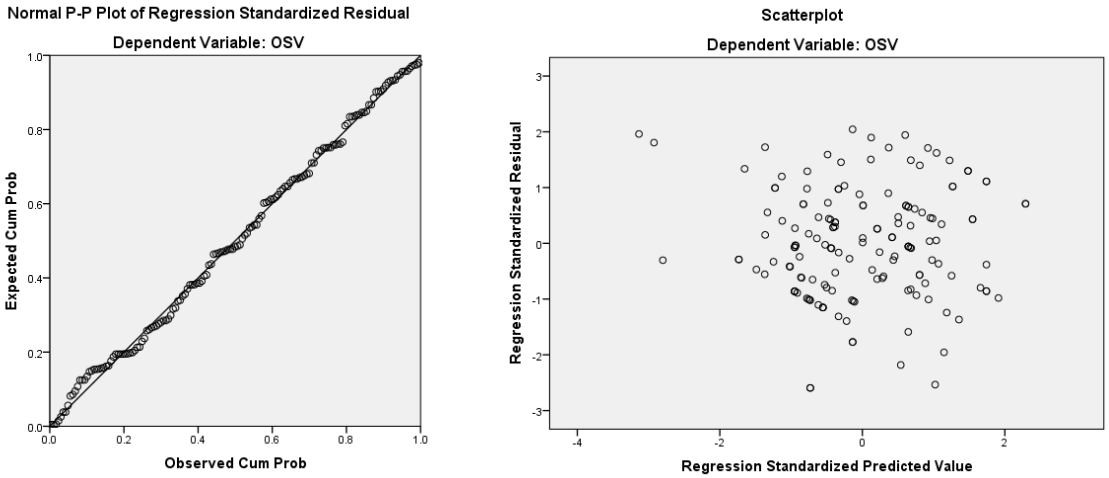


Eq.3: $DCC = \alpha_3 + \beta_{13}OMF + \beta_{14}EAO + \beta_{15}BDC + \beta_{16}OIE + \beta_{17}FAG + \beta_{18}FSI + \varepsilon_2$

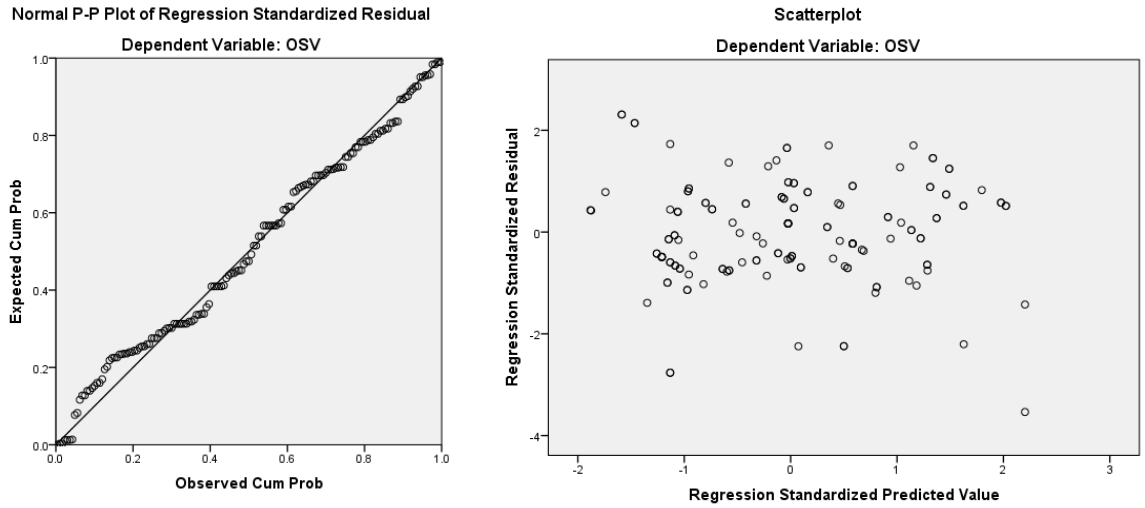




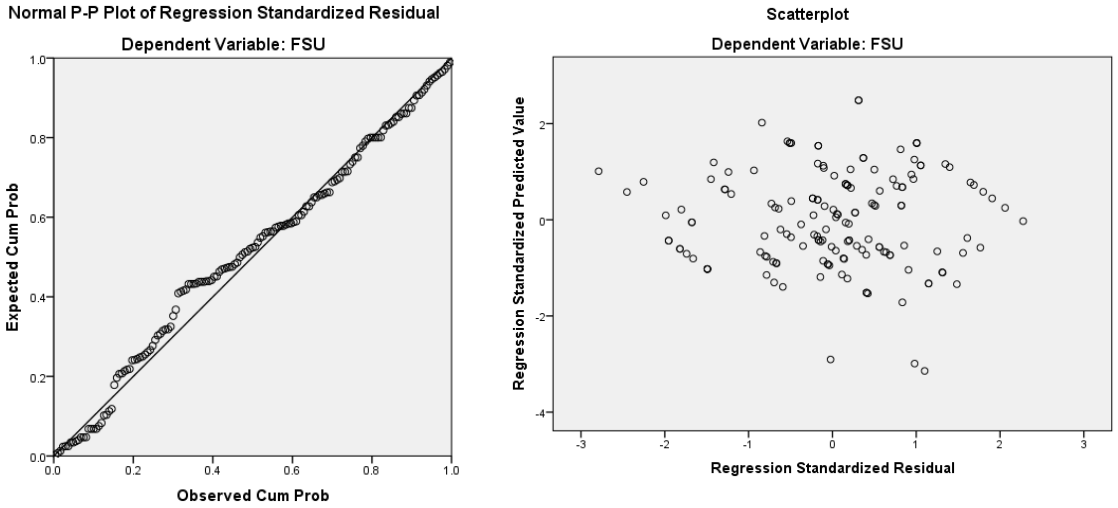
Eq.4: $DCC = \alpha_4 + \beta_{19}GAE + \beta_{20}SEF + \beta_{21}FAG + \beta_{22}FSI + \varepsilon_4$



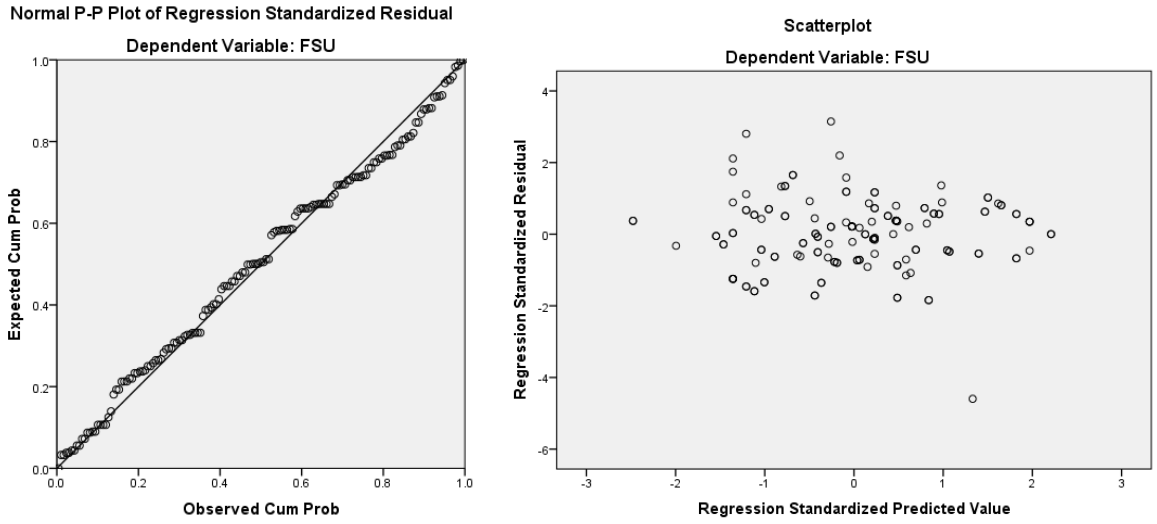
Eq.5: $OSV = \alpha_5 + \beta_{23}OMF + \beta_{24}EAO + \beta_{25}BDC + \beta_{26}OIE + \beta_{27}FAG + \beta_{28}FSI + \varepsilon_5$



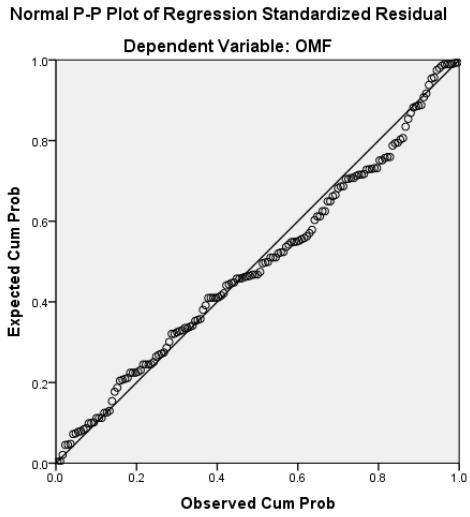
Eq.6: $OSV = \alpha_6 + \beta_{29}GAE + \beta_{30}SEF + \beta_{31}DCC + \beta_{32}FAG + \beta_{33}FSI + \varepsilon_6$

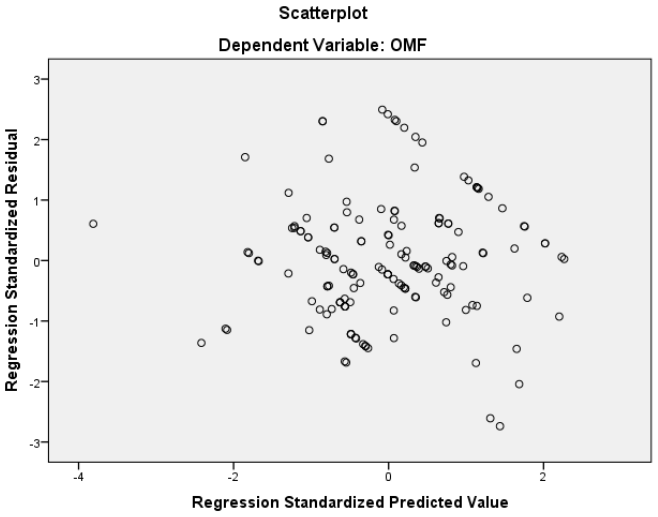


Eq.7: $FSU = \alpha_7 + \beta_{34}OMF + \beta_{35}EAO + \beta_{36}BDC + \beta_{37}OIE + \beta_{38}FAG + \beta_{39}FSI + \varepsilon_7$

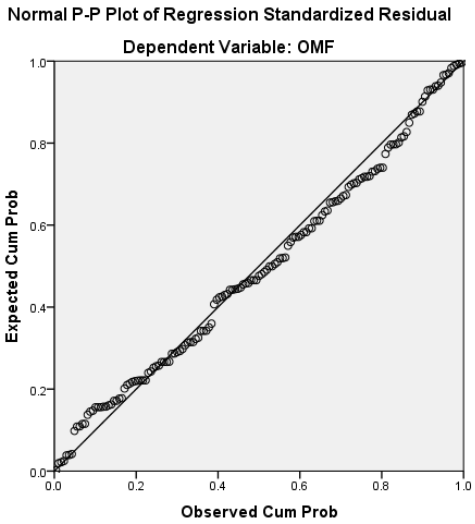


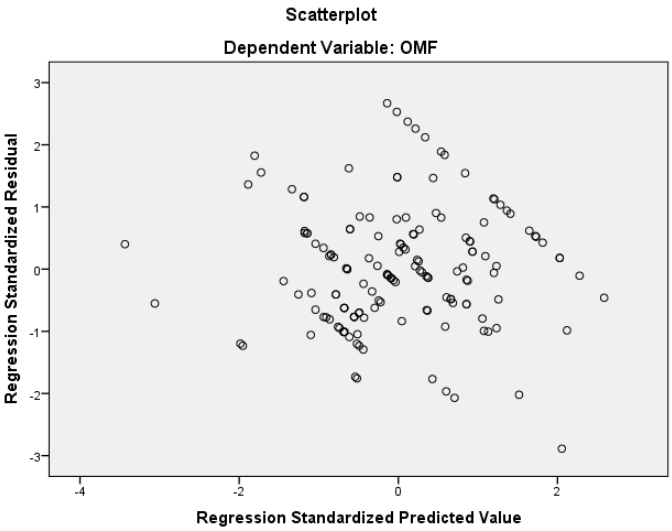
Eq.8: $FSU = \alpha_8 + \beta_{40}OSV + \beta_{41}FAG + \beta_{42}FSI + \varepsilon_8$



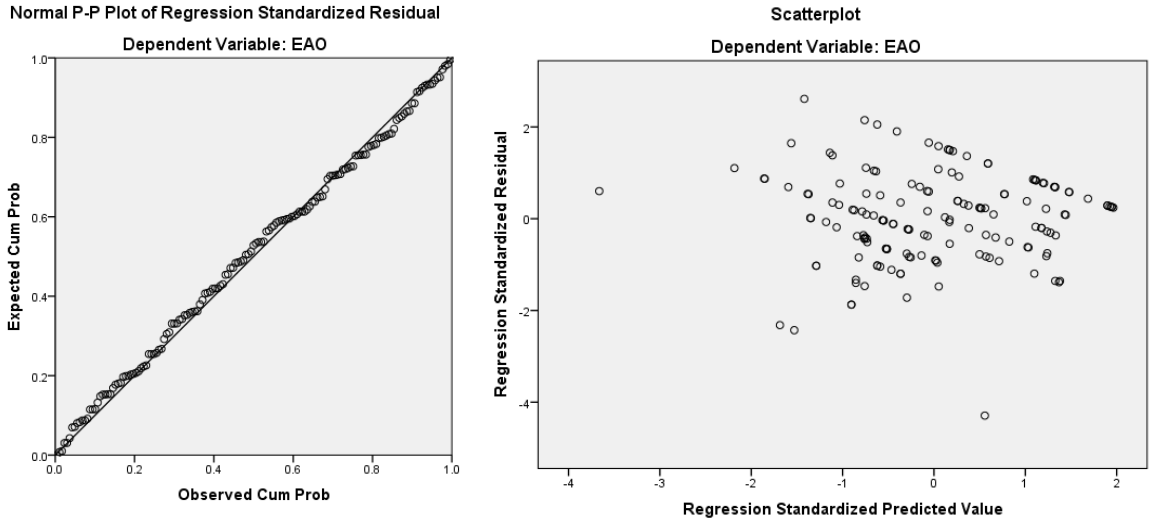


Eq.9: OMF = $\alpha_9 + \beta_{43}FLV + \beta_{44}LUT + \beta_{45}RCO + \beta_{46}TGR + \beta_{47}MCH + \beta_{48}FAG + \beta_{49}FSI + \varepsilon_9$

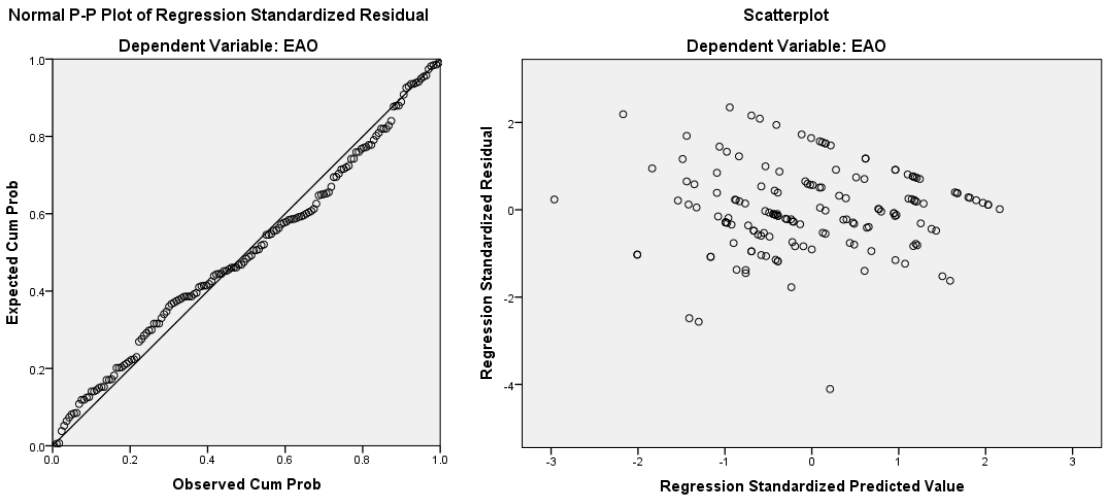




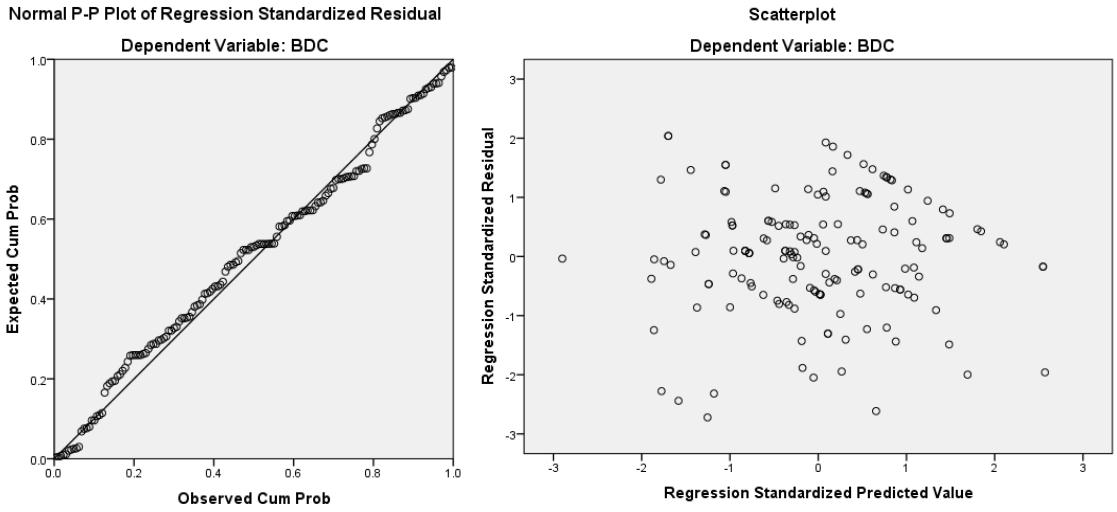
Eq.10: OMF = $\alpha_9 + \beta_{50}FLV + \beta_{51}LUT + \beta_{52}RCO + \beta_{53}TGR + \beta_{54}MCH + \beta_{55}CTU + \beta_{56}(FLV*CTU) + \beta_{57}(LUT*CTU) + \beta_{58}(RCO*CTU) + \beta_{59}(TGR*CTU) + \beta_{60}(MCH*CTU) + \beta_{61}FAG + \beta_{62}FSI + \varepsilon_{10}$



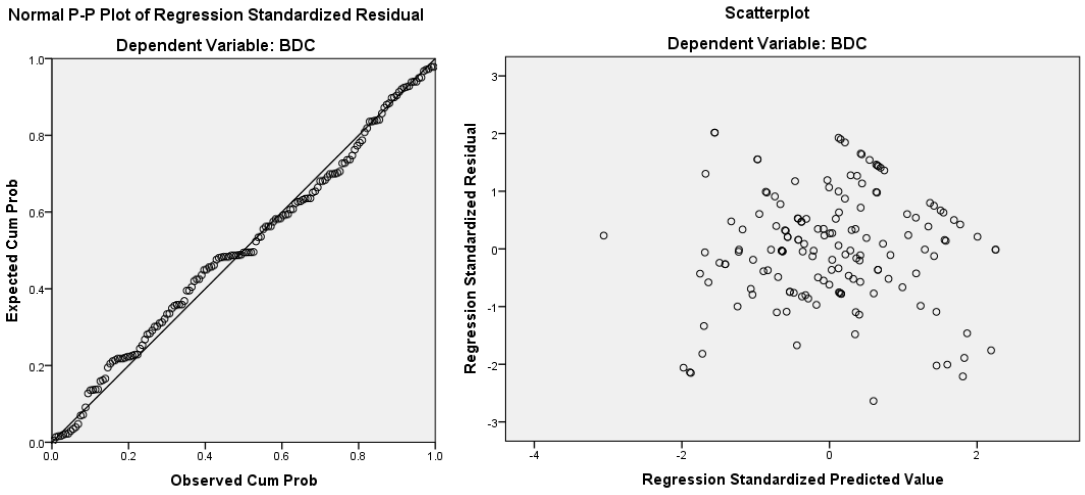
Eq.11: EAO = $\alpha_{11} + \beta_{63}FLV + \beta_{64}LUT + \beta_{65}RCO + \beta_{66}TGR + \beta_{67}MCH + \beta_{68}FAG + \beta_{69}FSI + \varepsilon_{11}$



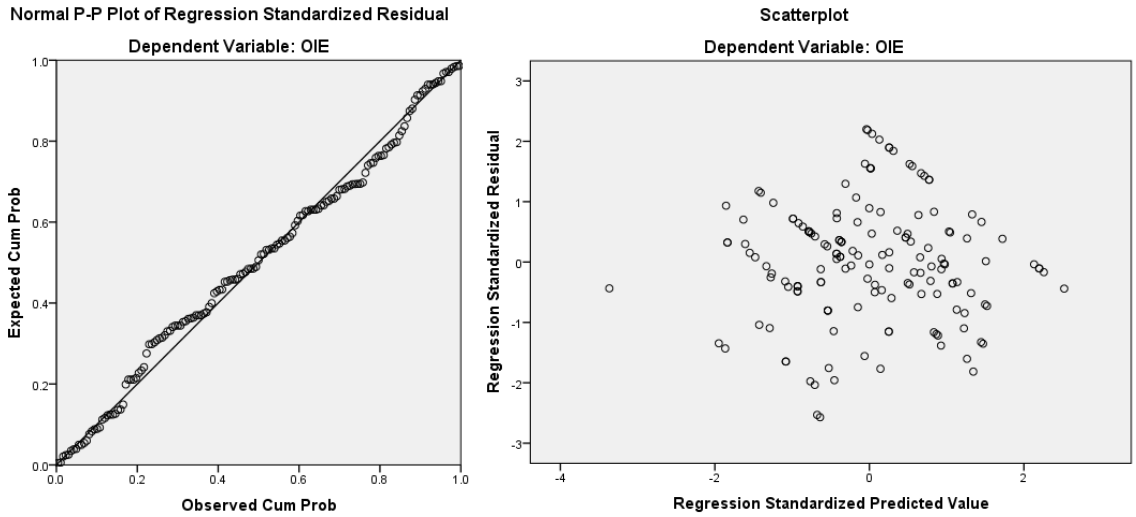
Eq.12: EAO = $\alpha 12 + \beta_{70}FLV + \beta_{71}LUT + \beta_{72}RCO + \beta_{73}TGR + \beta_{74}MCH + \beta_{75}CTU + \beta_{76}(FLV*CTU) + \beta_{77}(LUT*CTU) + \beta_{78}(RCO*CTU) + \beta_{79}(TGR*CTU) + \beta_{80}(MCH*CTU) + \beta_{81}FAG + \beta_{82}FSI + \varepsilon 12$



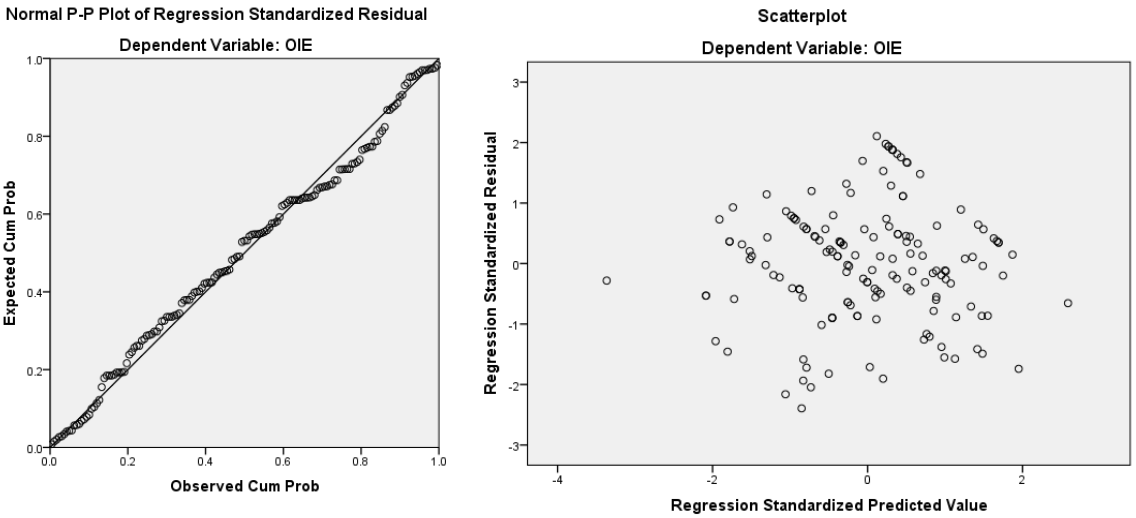
Eq.13: $BDC = \alpha_{13} + \beta_{83}FLV + \beta_{84}LUT + \beta_{85}RCO + \beta_{86}TGR + \beta_{87}MCH + \beta_{88}FAG + \beta_{89}FSI + \varepsilon_{13}$



Eq.14: $BDC = \alpha_{14} + \beta_{90}FLV + \beta_{91}LUT + \beta_{92}RCO + \beta_{93}TGR + \beta_{94}MCH + \beta_{95}CTU + \beta_{96}(FLV*CTU) + \beta_{97}(LUT*CTU) + \beta_{98}(RCO*CTU) + \beta_{99}(TGR*CTU) + \beta_{100}(MCH*CTU) + \beta_{101}FAG + \beta_{102}FSI + \varepsilon 14$



Eq.15: $OIE = \alpha_{15} + \beta_{103}FLV + \beta_{104}LUT + \beta_{105}RCO + \beta_{106}TGR + \beta_{107}MCH + \beta_{108}FAG + \beta_{109}FSI + \varepsilon_{15}$



Eq.16: $OIE = \alpha_{16} + \beta_{110}FLV + \beta_{111}LUT + \beta_{112}RCO + \beta_{113}TGR + \beta_{114}MCH + \beta_{115}CTU + \beta_{116}(FLV*CTU) + \beta_{117}(LUT*CTU) + \beta_{118}(RCO*CTU) + \beta_{119}(TGR*CTU) + \beta_{120}(MCH*CTU) + \beta_{121}FAG + \beta_{122}FSI + \varepsilon_{14}$

APPENDIX E

Covering Letter and Questionnaire (Thai Version)

แบบสอบถามเพื่อการวิจัย

เรื่อง ศักยภาพในการฟื้นฟูเชิงกลยุทธ์และการพัฒนาอย่างยั่งยืนในธุรกิจซอฟต์แวร์ในประเทศไทย

<u>คำชี้แจง</u>

การวิจัยนี้มีวัตถุประสงค์เพื่อศึกษาศักยภาพในการฟื้นฟูเชิงกลยุทธ์ของธุรกิจซอฟต์แวร์ในประเทศไทยซึ่งข้อมูลที่ได้รับจากท่านมีความสำคัญอย่างยิ่งต่อการวิเคราะห์ข้อมูลในการวิจัย อีกทั้ง ยังมีประโยชน์ในเชิงวิชาการเป็นอย่างสูงดังนั้น เพื่อให้การวิจัยนี้มีความเที่ยงตรงและเกิดประโยชน์อย่างแท้จริง จึงขอความกรุณาจากท่านโปรดตอบคำถามครบทุกข้อและทุกตอนตามความเป็นจริง และกรุณาพับใส่ซองจดหมายติดแสตมป์ที่แนบมานี้ ส่งคืนตามที่อยู่ที่ระบุไว้ของผู้วิจัย โดยรายละเอียดของแบบสอบถามประกอบด้วยส่วนคำถาม 7 ตอน ดังนี้

ตอนที่ 1 ข้อมูลทั่วไปของผู้บริหารในธุรกิจซอฟต์แวร์ในประเทศไทย

ตอนที่ 2 ข้อมูลทั่วไปของธุรกิจซอฟต์แวร์ในประเทศไทย

ตอนที่ 3 ความคิดเห็นเกี่ยวกับศักยภาพในการฟื้นฟูเชิงกลยุทธ์ของธุรกิจซอฟต์แวร์ในประเทศ

ตอนที่ 4 ความคิดเห็นเกี่ยวกับผลการดำเนินงานของธุรกิจซอฟต์แวร์ในประเทศ

ตอนที่ 5 ความคิดเห็นเกี่ยวกับปัจจัยภายในที่ส่งผลต่อศักยภาพในการฟื้นฟูเชิงกลยุทธ์ของธุรกิจซอฟต์แวร์ในประเทศ

ตอนที่ 6 ความคิดเห็นเกี่ยวกับปัจจัยภายนอกที่ส่งผลต่อศักยภาพในการฟื้นฟูเชิงกลยุทธ์ของซอฟต์แวร์ในประเทศ

ตอนที่ 7 ข้อคิดเห็นและข้อเสนอแนะของธุรกิจซอฟต์แวร์ในประเทศไทย

คำตอบของท่านจะถูกเก็บรักษาเป็นความลับ และจะไม่มีการใช้ข้อมูลใด ๆ ที่เปิดเผยเกี่ยวกับตัวท่านในการรายงานข้อมูล รวมทั้งจะไม่มีการร่วมใช้ข้อมูลดังกล่าวกับบุคคลภายนอกอื่นใดโดยไม่ได้รับอนุญาตจากท่านท่านต้องการรายงานสรุปผลการวิจัยหรือไม่

( ) ต้องการ E - Mail _____ ( ) ไม่ต้องการ

ผู้วิจัยขอขอบพระคุณที่ท่านได้กรุณาเสียสละเวลาในการให้ข้อมูลที่เป็นประโยชน์อย่างยิ่งต่อการวิจัย ในครั้งนี้ มา ณ โอกาสนี้ หากท่านมีข้อสงสัยประการใดเกี่ยวกับแบบสอบถาม โปรดติดต่อผู้วิจัยนายวศิน เพชรพงศ์พันธ์ นิสิตปริญญาเอก สาขาวิชาการจัดการ คณะการบัญชีและการจัดการ มหาวิทยาลัยมหาสารคาม 44000 โทรศัพท์เคลื่อนที่ 0850001500หรือ E-mail: wasin0387@gmail.com

ขอขอบพระคุณที่ให้ข้อมูลไว้ ณ โอกาสนี้

(นายวศิน เพชรพงศ์พันธ์)

นิสิตระดับปริญญาเอก สาขาวิชาการจัดการ

คณะการบัญชีและการจัดการ มหาวิทยาลัยมหาสารคาม

ตอนที่ 1 ข้อมูลทั่วไปผู้บริหารธุรกิจซอฟแวร์ในประเทศไทย

1. เพศ

☐ ชาย ☐ หญิง

2. อายุ

☐ น้อยกว่า 30 ปี ☐ 30– 40 ปี

☐ 41-50 ปี ☐ มากกว่า 50 ปี

3. สถานภาพสมรส

☐ 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 50,000 บาท ☐ 50,000 – 70,000 บาท

☐ 70,001-90,000 บาท ☐ มากกว่า 90,000 บาท

7. ตำแหน่งงานในปัจจุบัน

☐ กรรมการผู้จัดการ ☐ หุ้นส่วนผู้จัดการ

☐ อื่น ๆ (โปรดระบุ).....

ตอนที่ 2 ข้อมูลทั่วไปธุรกิจซอฟแวร์ในประเทศไทย

1. รูปแบบธุรกิจ

☐ บริษัทจำกัด ☐ ห้างหุ้นส่วน

2. ประเภทธุรกิจ

☐ ซอฟแวร์ ช่วยในการบริหารจัดการทั่วไป (Enterprise Software)

☐ ซอฟแวร์ /สารสนเทศในรูปแบบดิจิตอล (Digital Software)

☐ ซอฟแวร์ที่ฝังตัวอยู่ในระบบอิเลคทรอนิคส์ (Embedded Software)

☐ อื่นๆ (โปรดระบุ).....

3. ลักษณะการผลิตสินค้าของธุรกิจ

☐ ผลิตตามคำสั่งซื้อ ☐ ผลิตตามแผนการดำเนินงานของธุรกิจ

4. ทุนในการดำเนินงาน

☐ ต่ำกว่า 10,000,000 บาท ☐ 10,000,000 – 15,000,000 บาท

☐ 15,000,001 – 20,000,000 บาท ☐ มากกว่า 20,000,000 บาท

5. จำนวนพนักงานในปัจจุบัน

☐ น้อยกว่า 25 คน ☐ ☐ 25 - 50 คน

☐ 51-75 คน ☐ มากกว่า 75 คน

6. ระยะเวลาในการดำเนินธุรกิจ

☐ น้อยกว่า 5 ปี ☐ 5 - 10 ปี

☐ 11 - 15 ปี ☐ มากกว่า 15 ปี

7. รายได้เฉลี่ยของกิจการต่อปี

☐ ต่ำกว่า 5,000,000 บาท ☐ 5,000,000 – 10,000,000 บาท

☐ 10,000,001 – 15,000,000 บาท ☐ มากกว่า 15,000,000 บาท

8. กิจการเป็นสมาชิกของสำนักงานส่งเสริมอุตสาหกรรมซอฟต์แวร์แห่งชาติ

☐ เป็นสมาชิก ☐ ไม่เป็นสมาชิก

ตอนที่ 3 ความคิดเห็นเกี่ยวกับศักยภาพในการฟื้นฟูเชิงกลยุทธ์ของธุรกิจซอฟต์แวร์ในประเทศไทย

ศักยภาพในการฟื้นฟูเชิงกลยุทธ์	ระดับความคิดเห็น				
	มากที่สุด 5	มาก 4	ปานกลาง 3	น้อย 2	น้อยที่สุด 1
การมุ่งเน้นการบำรุงรักษาในการปฏิบัติงาน					
1. กิจการเชื่อมั่นว่าการให้ความสนใจกับการดูแลรักษาประสิทธิภาพในการดำเนินงานอยู่เสมอ จะช่วยให้องค์กรสามารถพัฒนาได้อย่างต่อเนื่อง					
2. กิจการส่งเสริมให้มีการทดสอบความรู้ความสามารถของบุคลากรอย่างต่อเนื่อง ซึ่งช่วยเพิ่มประสิทธิภาพขององค์กรได้เป็นอย่างดี					
3. กิจการให้ความสำคัญกับการประเมินประสิทธิภาพการดำเนินงานอย่างเป็นระบบ ซึ่งช่วยให้สามารปรับปรุงการทำงานได้อย่างมีประสิทธิผล					
4. กิจการสนับสนุนให้มีการเก็บรักษาข้อมูลที่เป็นประโยชน์ต่อองค์กรอย่างเป็นรูปธรรม ซึ่งส่งผลให้เกิดการพัฒนาความสามารถในการดำเนินงานอย่างเห็นได้ชัด					
5. กิจการมุ่งเน้นให้มีการติดตามสภาพแวดล้อมในการดำเนินงานอยู่เสมอ ซึ่งช่วยให้สามารถกำหนดแนวทางในการดำเนินงานให้ทันต่อเหตุการณ์ดังกล่าวได้เป็นอย่างดี					
การมุ่งเน้นการปรับตัวต่อสภาพแวดล้อม					
6. กิจการเชื่อมั่นว่าการปรับตัวให้เข้ากับสภาพแวดล้อมในดำเนินงานได้เป็นอย่างดีจะช่วยให้องค์กรสามารถอยู่รอดได้ในทุกสถานการณ์					
7. กิจการให้ความสำคัญการวิเคราะห์การเปลี่ยนแปลงของสภาพแวดล้อมอย่างต่อเนื่อง ซึ่งช่วยให้การวางแผนการดำเนินงานมีประสิทธิภาพมากขึ้น					

ตอนที่ 3 (ต่อ)

ศักยภาพในการฟื้นฟูเชิงกลยุทธ์	ระดับความคิดเห็น				
	มากที่สุด 5	มาก 4	ปานกลาง 3	น้อย 2	น้อยที่สุด 1
8. กิจการสนับสนุนให้มีการปรับปรุงกระบวนการดำเนินงานให้สอดคล้องกับสถานการณ์ที่เปลี่ยนแปลงไป ช่วยให้องค์กรเกิดความสำเร็จในการดำเนินงานได้อย่างมีประสิทธิผล					
9. กิจการส่งเสริมให้มีการวางแผนการดำเนินงานให้สอดคล้องกับการเปลี่ยนแปลงของสภาพแวดล้อม ซึ่งจะทำให้องค์กรได้รับผลประโยชน์จากการดำเนินงานสูงสุด					
ความสามารถในการพัฒนาทางธุรกิจ 10. กิจการเชื่อมั่นว่าการเติบโตของธุรกิจอย่างต่อเนื่อง จะช่วยให้องค์กรบรรลุเป้าหมายและประสบผลสำเร็จได้เป็นอย่างดี					
11. กิจการมุ่งเน้นให้มีการเพิ่มคุณภาพผลิตภัณฑ์และการบริการใหม่ๆ อยู่เสมอ ซึ่งช่วยให้องค์กรตอบสนองต่อความต้องการลูกค้าได้ดียิ่งขึ้น					
12. กิจการส่งเสริมให้มีการเพิ่มช่องทางการขายให้มีความหลากหลายมากยิ่งขึ้น ซึ่งจะช่วยให้สามารถให้บริการลูกค้าได้ดียิ่งขึ้น					
13. กิจการให้ความสำคัญกับการขยายฐานตลาดออย่างเป็นรูปธรรม ซึ่งจะช่วยให้กิจการประสบผลสำเร็จในการดำเนินงานมากยิ่งขึ้น					
14. กิจการมุ่งมั่นในการพัฒนาความสัมพันธ์กับลูกค้าและซัพพลายเออร์อย่างต่อเนื่อง ซึ่งช่วยให้การบริหารงานขององค์กรบรรลุเป้าหมายได้เป็นอย่างดี					

ตอนที่ 3 (ต่อ)

ศักยภาพในการฟื้นฟูเชิงกลยุทธ์	ระดับความคิดเห็น				
	มากที่สุด 5	มาก 4	ปานกลาง 3	น้อย 2	น้อยที่สุด 1
การส่งเสริมนวัตกรรมขององค์กร					
15. กิจการเชื่อมั่นว่าการนำเอาวิธีการดำเนินงานใหม่ๆมาใช้ในองค์กรจะช่วยให้องค์กรมีความสามารถและศักยภาพในการแข่งขันมากยิ่งขึ้น					
16. กิจการมุ่งเน้นให้มีการนำเทคนิค เทคโนโลยีและวิธีการใหม่ๆ เข้ามาใช้ในองค์กร ซึ่งช่วยพัฒนาประสิทธิภาพในการดำเนินงานได้มากยิ่งขึ้น					
17. กิจการให้ความสำคัญกับการศึกษา ค้นคว้าและวิจัยผลิตภัณฑ์ใหม่ๆอยู่เสมอซึ่งจะช่วยให้ตอบสนองต่อความต้องการของลูกค้าได้ดียิ่งขึ้น					
18. กิจการสนับสนุนให้มีการนำแนวคิดใหม่ๆ เข้ามาใช้ในกระบวนการดำเนินงาน ซึ่งจะช่วยเพิ่มความสามารถและศักยภาพขององค์กร ได้มากยิ่งขึ้น					

ตอนที่ 4 ความคิดเห็นเกี่ยวกับผลการดำเนินงานของธุรกิจซอฟต์แวร์ในประเทศ

ผลการดำเนินงาน	ระดับความคิดเห็น				
	มากที่สุด 5	มาก 4	ปานกลาง 3	น้อย 2	น้อยที่สุด 1
ความเป็นเลิศทางด้านการบรรลุเป้าหมาย					
1. กิจการมีผลการดำเนินงานที่บรรลุผลสำเร็จอย่างดีเยี่ยม เป็นไปตามเป้าหมายที่กำหนดไว้					
2. กิจการมีการจัดสรรทรัพยากรอย่างเหมาะสมและคุ้มค่าตามแผนที่วางไว้ได้เป็นอย่างดี					
3. กิจการสามารถควบคุมต้นทุนในการผลิตได้อย่างมีประสิทธิภาพ					
4. กิจการมีการบริหารงานอย่างมืออาชีพ และได้รับการยอมรับจากผู้มีส่วนเกี่ยวข้องด้วยดีเสมอมา					
การเติมเต็มความคาดหวังของผู้มีส่วนได้ส่วนเสีย					
5. กิจการเข้าใจถึงความต้องการและส่งมอบผลิตภัณฑ์ที่ดีที่สุดได้ตรงกับความคาดหวังของลูกค้าด้วยดีเสมอมา					
6. กิจการมีการจูงใจให้ลูกค้าเกิดความต้องการซื้อสินค้ามากขึ้น จากการนำเสนอผลิตภัณฑ์ของกิจการที่มีความโดดเด่นและแปลกใหม่					
7. กิจการสร้างคุณค่าใหม่ๆที่ตอบสนองต่อความชอบของลูกค้าที่ไม่สามารถคาดเดาได้ และสร้างความพึงพอใจให้แก่ลูกค้าได้เป็นอย่างดี					
8. กิจการมีการตอบสนองต่อความต้องการพื้นฐานของผู้มีส่วนได้ส่วนเสียอย่างรวดเร็วเฉียบพลันทุกสถานการณ์					

ตอนที่ 4 (ต่อ)

ผลการดำเนินงาน	ระดับความคิดเห็น				
	มากที่สุด 5	มาก 4	ปานกลาง 3	น้อย 2	น้อยที่สุด 1
ความสามารถทางการแข่งขันเชิงพลวัตรขององค์กร					
9. กิจการสามารถนำเสนอผลิตภัณฑ์ใหม่ๆออกสู่ตลาดด้วยคุณภาพและราคาที่เหมาะสมและดีกว่าคู่แข่งในตลาดได้อย่างสม่ำเสมอ					
10. กิจการได้รับความไว้วางใจและเชื่อมั่นจากลูกค้าในคุณภาพสินค้าและบริการที่เหนือกว่าคู่แข่งขันเสมอมา					
11. กิจการมีการปรับปรุงพัฒนาผลิตภัณฑ์ใหม่ๆ ให้โดดเด่น มีความทันสมัยและดีกว่าคู่แข่งขันได้อย่างต่อเนื่อง					
12. กิจการสามารถตอบโต้ต่อการเคลื่อนไหวทางธุรกิจของคู่แข่งในตลาดได้อย่างรวดเร็ว จากอดีตจนถึงปัจจุบันและเชื่อมโยงต่อไปยังอนาคต					
13. กิจการมีการดำเนินงานโดยรวมที่ยอดเยี่ยมและดีกว่าคู่แข่งขันในอุตสาหกรรมเดียวกันอย่างต่อเนื่อง					
ความอยู่รอดขององค์กร					
14. กิจการมีวัฒนธรรมการแข่งขันที่โดดเด่น ซึ่งเป็นพื้นฐานให้การดำเนินขององค์กรประสบความสำเร็จด้วยดีเสมอมา					
15. กิจการมั่นใจว่าจะสามารถอยู่รอดในอุตสาหกรรมและการแข่งขันทั้งในปัจจุบันและอนาคต					
16. กิจการได้รับการยอมรับจากลูกค้าและผู้มีส่วนเกี่ยวข้องว่าเป็นองค์กรที่มีคุณภาพ และมีการบริหารงานอย่างมีประสิทธิภาพและประสิทธิผลอย่างต่อเนื่อง					
17. กิจการสามารถรักษาลูกค้าเก่าไว้ได้เป็นอย่างดี และมีลูกค้าใหม่เพิ่มขึ้นอย่างต่อเนื่อง					
18. กิจการสามารถบริหารการดำเนินธุรกิจได้เป็นอย่างดี ภายใต้สภาพแวดล้อมทางการแข่งขันที่รุนแรงและไม่แน่นอน					

ตอนที่ 4 (ต่อ)

ผลการดำเนินงาน	ระดับความคิดเห็น				
	มากที่สุด 5	มาก 4	ปานกลาง 3	น้อย 2	น้อยที่สุด 1
การพัฒนาอย่างยั่งยืนของบริษัท					
19. กิจการมีธุรกิจที่มีแนวโน้มจะเจริญเติบโตและขยายตัวอย่างต่อเนื่องเมื่อเทียบกับอดีตที่ผ่านมา					
20. กิจการมีแนวโน้มที่จะออกผลิตภัณฑ์ใหม่ หรือสร้างนวัตกรรมต่างๆได้อย่างต่อเนื่อง					
21. กิจการสามารถสร้างผลกำไรให้เพิ่มมากขึ้น เมื่อเปรียบเทียบกับผลการดำเนินธุรกิจในปีที่ผ่านมา					
22. กิจการมีฐานะทางการเงินดีขึ้นอย่างต่อเนื่องและมีเสถียรภาพมั่นคง					
23. กิจการมีอัตราการเจริญเติบโตของส่วนแบ่งทางการตลาดที่เพิ่มสูงขึ้นอย่างต่อเนื่องเมื่อเทียบกับอดีต					

ตอนที่ 5 ความคิดเห็นเกี่ยวกับปัจจัยภายในที่ส่งผลต่อศักยภาพในการฟื้นฟูเชิงกลยุทธ์ของธุรกิจซอฟต์แวร์ในประเทศไทย

ปัจจัยภายในที่ส่งผลต่อศักยภาพในการฟื้นฟูเชิงกลยุทธ์	ระดับความคิดเห็น				
	มากที่สุด 5	มาก 4	ปานกลาง 3	น้อย 2	น้อยที่สุด 1
การมีวิสัยทัศน์ที่มุ่งเน้นไปข้างหน้า					
1. กิจการเชื่อมั่นว่าการกำหนดแนวทางและนโยบายที่มุ่งเน้นเป้าหมายในอนาคต จะช่วยทำให้การบริหารงานมีประสิทธิภาพมากยิ่งขึ้น					
2. กิจการให้ความสำคัญกับการวิเคราะห์และคาดการณ์ สภาพการแข่งขันในอนาคต เพื่อนำมาใช้เป็นข้อมูลในการวางแผนการดำเนินงานและกลยุทธ์ขององค์กรให้มีประสิทธิภาพมากยิ่งขึ้น					
3. กิจการสนับสนุนให้มีการพัฒนาบุคลากรอย่างเป็นระบบและเป็นรูปธรรม ซึ่งจะช่วยให้ดำเนินงานบรรลุเป้าหมายได้ดียิ่งขึ้นทั้งในปัจจุบันและอนาคต					
4. กิจการสนับสนุนให้มีการประยุกต์ใช้เทคนิคและการบริหารงานสมัยใหม่ให้สอดคล้องกับการเปลี่ยนแปลงที่เกิดขึ้น ซึ่งจะช่วยให้การดำเนินงานบรรลุเป้าหมายได้เป็นอย่างดี					
5. กิจการส่งเสริมให้มีการลงทุนทางด้านเทคโนโลยีอยู่เสมอ ซึ่งจะช่วยให้กิจการสามารถพัฒนาและปรับปรุงกระบวนการดำเนินงานให้ดียิ่งขึ้นอย่างต่อเนื่อง					
6. กิจการส่งเสริมให้มีการลงทุนทางด้านเทคโนโลยีอยู่เสมอ ซึ่งจะช่วยให้กิจการสามารถพัฒนาและปรับปรุงกระบวนการดำเนินงานให้ดียิ่งขึ้นอย่างต่อเนื่อง					
7. กิจการส่งเสริมให้มีการลงทุนทางด้านเทคโนโลยีอยู่เสมอ ซึ่งจะช่วยให้กิจการสามารถพัฒนาและปรับปรุงกระบวนการดำเนินงานให้ดียิ่งขึ้น					
8. กิจการส่งเสริมให้มีการลงทุนทางด้านเทคโนโลยีอยู่เสมอ ซึ่งจะช่วยให้กิจการสามารถพัฒนาและปรับปรุงกระบวนการดำเนินงานให้ดียิ่งขึ้นอย่างต่อเนื่อง					

ตอนที่ 5 (ต่อ)

ปัจจัยภายในที่ส่งผลต่อศักยภาพในการฟื้นฟูเชิงกลยุทธ์	ระดับความคิดเห็น				
	มากที่สุด 5	มาก 4	ปานกลาง 3	น้อย 2	น้อยที่สุด 1
การใช้ประโยชน์จาการเรียนรู้					
9. กิจการเชื่อมั่นว่าการเรียนรู้ในองค์กรจะช่วยให้มีการพัฒนาการดำเนินงานให้มีประสิทธิภาพมากยิ่งขึ้น					
10. กิจการส่งเสริมให้มีการนำประสบการณ์ในอดีตมาใช้ประโยชน์ในดำเนินงาน ซึ่งช่วยให้การบริหารงานบรรลุเป้าหมายได้เป็นอย่างดี					
11. กิจการให้ความสำคัญกับการนำข้อผิดพลาดที่เกิดขึ้นในอดีตมาใช้เป็นแนวทางในการดำเนินงานปัจจุบัน ซึ่งจะช่วยให้แผนการดำเนินงานขององค์กรมีประสิทธิผลมากยิ่งขึ้น					
12. กิจการส่งเสริมให้บุคลากรเรียนรู้ ศึกษา ค้นคว้า กระบวนการและวิธีการดำเนินงานใหม่ๆอย่างต่อเนื่อง ซึ่งจะช่วยให้องค์กรประสบความสำเร็จมากยิ่งขึ้น					
13. กิจการสนับสนุนให้มีการจัดทำฐานข้อมูลความรู้ที่เกี่ยวข้องกับประสบการณ์ของพนักงานและองค์กรอย่างเป็นระบบมีรูปธรรม ซึ่งจะช่วยให้การดำเนินงานมีประสิทธิภาพดียิ่งขึ้น					
ความสมบูรณ์ของทรัพยากร					
14. กิจการเชื่อมั่นว่าการมีทรัพยากรที่เพียงพอและเหมาะสมต่อการดำงานจะช่วยให้การดำเนินงานขององค์กรมีประสิทธิภาพมากยิ่งขึ้น					
15. กิจการสนับสนุนให้บุคลากรเข้าร่วมฝึกอบรมอย่างต่อเนื่อง ซึ่งจะช่วยให้องค์กรสามารถบริหารได้ดียิ่งขึ้น					
16. กิจการมุ่งเน้นให้มีการจัดสรรงบประมาณในการพัฒนาองค์กรอย่างเป็นระบบและเป็นรูปธรรม ซึ่งจะช่วยให้การบริหารงานสามารถตอบสนองต่อการเปลี่ยนแปลงได้อย่างเต็มที่					

ตอนที่ 6 ความคิดเห็นเกี่ยวกับปัจจัยภายนอกที่ส่งผลต่อศักยภาพในการฟื้นฟูเชิงกลยุทธ์ของธุรกิจซอฟต์แวร์ในประเทศ

ปัจจัยภายในที่ส่งผลต่อศักยภาพในการฟื้นฟูเชิงกลยุทธ์	ระดับความคิดเห็น				
	มากที่สุด 5	มาก 4	ปานกลาง 3	น้อย 2	น้อยที่สุด 1
17. กิจการให้ความสำคัญกับการแสวงหาเทคโนโลยีสมัยใหม่เข้ามาใช้ในองค์กรอย่างต่อเนื่อง ซึ่งจะช่วยให้สามารถบริหารงานได้ดียิ่งขึ้น					
18. กิจการตระหนักเสมอว่าการบริหารทรัพยากรที่มีอยู่ให้เกิดประโยชน์สูงสุดและสอดคลองกับสถานการณ์ จะทำให้องค์กรสามารถต่อสู้และแข่งขันในตลาดได้อย่างมีประสิทธิภาพ					
การเติบโตของเทคโนโลยี 1. ในปัจจุบันเทคโนโลยีมีความก้าวหน้ามากขึ้น ส่งผลให้กิจการต่างๆ ต้องมีการปรับปรุงพัฒนาตนเองอย่างต่อเนื่อง เพื่อให้สามารถบริหารงานได้อย่างมีประสิทธิภาพ					
2. เทคโนโลยีสารสนเทศมีความหลากหลาย ทำให้กิจการต่างๆต้องมีการพัฒนาแนวคิดและหลักการในการเลือกใช้ที่มีความเหมาะสมกับกลยุทธ์ในการดำเนินงานของกิจการ					
3. เทคโนโลยีที่เติบโตและเปลี่ยนแปลงไปในปัจจุบัน ส่งผลให้กิจการต่างๆ ต้องมีการพัฒนาแนวทางวิธีการประยุกต์ใช้ให้ได้รับประโยชน์มากยิ่งขึ้น					
4. การพัฒนาเทคโนโลยีที่เกิดขึ้นอย่างต่อเนื่อง ทำให้กิจการต่างๆต้องมุ่งเน้นในการศึกษา เรียนรู้และทำความเข้าใจ เพื่อประยุกต์ใช้เทคโนโลยีดังกล่าวให้มีประสิทธิภาพมากยิ่งขึ้น					
5. เทคโนโลยีสารสนเทศที่ทันสมัยและมีความก้าวหน้า ทำให้กิจการต่างๆ สามารถดำเนินงานได้อย่างสะดวกรวดเร็วมากยิ่งขึ้น ซึ่งสามารถลดความผิดพลาดในการทำงานได้เป็นอย่างดี					

ตอนที่ 6 (ต่อ)

ปัจจัยภายนอกที่ส่งผลต่อศักยภาพในการฟื้นฟูเชิงกลยุทธ์	ระดับความคิดเห็น				
	มากที่สุด 5	มาก 4	ปานกลาง 3	น้อย 2	น้อยที่สุด 1
การเปลี่ยนแปลงทางการตลาด					
6. ในปัจจุบัน กฎ ระเบียบ และข้อบังคับต่างๆ ทางการตลาด ได้มีการเปลี่ยนแปลงอย่างต่อเนื่อง ส่งผลให้กิจการต่างๆต้องเรียนรู้ และปรับเปลี่ยนวิธีการดำเนินงานเพื่อให้สอดคล้องกับสถานการณ์ดังกล่าวได้เป็นอย่างดี					
7. ลูกค้า ตลาด และผู้มีส่วนเกี่ยวข้องอื่นๆมีความต้องการที่หลากหลายเพิ่มมากขึ้น ส่งผลให้กิจการต่างๆต้องมีการปรับเปลี่ยนการดำเนินงานอย่างต่อเนื่อง เพื่อให้การบริหารงานสำเร็จลุล่วงด้วยดี					
8. ช่องทางการเข้าถึงลูกค้ามีการเปลี่ยนแปลงจากเทคโนโลยีและพฤติกรรมทางสังคม ทำให้กิจการต่างๆต้องมีการปรับเปลี่ยนวิธีการให้มีความหลากหลายเพื่อให้เข้าถึงลูกค้าได้มากยิ่งขึ้น					
9. สภาพเศรษฐกิจที่มีความผันผวนทำให้ความต้องการของผู้มีส่วนได้เสียเปลี่ยนแปลง ส่งผลให้กิจการต่างๆต้องมีการพัฒนาความสามารถในการบริหารงานอย่างต่อเนื่อง เพื่อให้การดำเนินงานของกิจการดำรงอยู่ได้ในปัจจุบันและอนาคต					
ความผันผวนทางการแข่งขัน					
10. ในปัจจุบันมีการแข่งขันทางธุรกิจเกิดขึ้นอย่างรุนแรง ทำให้กิจการต่างๆ ต้องแสวงหารูปแบบกลยุทธ์ใหม่ๆ อยู่เสมอ เพื่อสร้างความโดดเด่นให้กับสินค้าและบริการ					
11. คู่แข่งขันในตลาดเพิ่มจำนวนมากขึ้น ส่งผลให้กิจการต่างๆ ต้องมีการปรับเปลี่ยนแนวทางและวิธีการดำเนินงานให้เหมาะสมกับการแข่งขันมากยิ่งขึ้น					

ตอนที่ 6 (ต่อ)

ปัจจัยภายนอกที่ส่งผลต่อศักยภาพในการฟื้นฟูเชิงกลยุทธ์	ระดับความคิดเห็น				
	มากที่สุด 5	มาก 4	ปานกลาง 3	น้อย 2	น้อยที่สุด 1
12. สถานการณ์การแข่งขันมีความซับซ้อนมากยิ่งขึ้น ทำให้กิจการต่าง ๆ ต้องแสวงหายุทธวิธีและวิธีการใหม่ๆ เพื่อให้สามารถตอบสนองความต้องการของลูกค้าได้อย่างทันท่วงที					
13. ลูกค้าและซัพพลายเออร์มีอำนาจในการต่อรองมากขึ้น ทำให้กิจการต่างๆต้องมีการเตรียมพร้อมรับมือกับความต้องการที่หลากหลาย					

<u>ตอนที่ 7</u>ข้อคิดเห็นและข้อเสนอแนะของธุรกิจซอฟต์แวร์ในประเทศไทย

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ขอขอบพระคุณท่านที่ได้สละเวลาตอบแบบสอบถามทุกข้อ ได้โปรดพับแบบสอบถามและใส่ซองที่แนบมาพร้อมนี้ ส่งคืนตามที่อยู่ที่ระบุ **หากท่านต้องการรายงานสรุปผลการวิจัยครั้งนี้ <u>โปรดแนบนามบัตรหรือระบุอีเมล์</u> ของท่านมาพร้อมกับแบบสอบถาม** ผู้วิจัยยินดีที่จะจัดส่งรายงานสรุปให้แก่ท่านภายหลังเสร็จสิ้นการวิเคราะห์ข้อมูล

APPENDIX F

Covering Letter and Questionnaire (English Version)

Questionnaire to the Ph. D. Dissertation Research
"Strategic Renewal Capability and Firm Sustainability: An Empirical Investigation of Software Businesses in Thailand"

Explanations :

The objective of this research is to examine the renewal capability of software businesses in Thailand. This research is a part of doctoral dissertation of Mister Wasin Phetphongphan at the Mahasarakham Business School, Mahasarakham University, Thailand. The questionnaire is divided into 7 parts

Part 1: Personal information about top managers of software businesses in Thailand,
Part 2: General information about software businesses in Thailand,
Part3: Opinion on strategic renewal capability of software businesses in Thailand,
Part 4: Opinion on businesses outcomes of software businesses in Thailand,
Part 5: Opinion on internal environmental factors of software businesses in Thailand,
Part 6: Opinion on external environmental factors of software businesses in Thailand, and
Part 7: Recommendations and suggestions regarding renewal capability of software in Thailand.

Your answers will be kept in confidentiality and your information will not be shared with any outsider party without your permission.

Do you want a summary of the results?

( ) Yes, e-mail …… ( ) No

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 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. Cell phone: 0850001500 / Email: wasin0387@gmail.com

Sincerely yours,

(Mister Wasin Phetphongphan)

Ph. D. Student
Mahasarakham Business School
Mahasarakham University, Thailand

Section 1: Personal information about executives of software businesses 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. Level of education
   - □ Bachelor's degree or lower
   - □ Higher than Bachelor's degree

5. Working experiences
   - □ Less than 5 years
   - □ 5- 10 years
   - □ 11 – 15 years
   - □ More than15 years

6. Average revenues per month
   - □ Less than 50,000 Baht
   - □ 50,000 – 70,000 Baht
   - □ 70,001 - 90,000 Baht
   - □ More than 90,000 Baht

7. Current position
   - □ Chief executive officers (CEO)
   - □ Executive directors
   - □ Other (Please Specify)……..…

Section 2: General information about software businesses in Thailand,

1. Business Entity
   - ☐ Company limited
   - ☐ Partnership

2. Business types
   - ☐ Enterprise software
   - ☐ Digital software
   - ☐ Embedded software
   - ☐ Others (specific)……

3. Nature of production
   - ☐ Made to order
   - ☐ Production by the business plan

4. Working capital
   - ☐ Less than 10,000,000 Baht
   - ☐ 10,000,000 – 15,000,000 Baht
   - ☐ 15,000,001 – 20,000,000 Baht
   - ☐ More than 20,000,000 Baht

5. Number of full time employees
   - ☐ Less than 25
   - ☐ 25 - 50
   - ☐ 51 – 75
   - ☐ More than 75

6. The period of time in business
   - ☐ Less than5 years
   - ☐ 5-10 years
   - ☐ 11-15 years
   - ☐ More than15 years

7. Average annual income
   - ☐ Less than 5,000,000 Baht
   - ☐ 5,000,000 – 10,000,000 Baht
   - ☐ 10,000,001 – 15,000,000 Baht
   - ☐ More than 15,000,000 Baht

8. A member of the Software Industry Promotion Agency of Thailand
   - ☐ Yes
   - ☐ No

Section 3: Opinion on strategic renewal capability of software businesses in Thailand,

Strategic Renewal Capability	Level of Agreement				
	Strongly Agree 5	Agree 4	Neutral 3	Disagree 2	Strongly Disagree 1
Operational Maintenance Focus 1. Firm believes that an attention of the maintaining of operational efficiency at all times allows the enterprises to develop steadily.	5	4	3	2	1
2. Firm encourages the efficacy testing of personnel continuously. This improves the efficiency of the organization as well.	5	4	3	2	1
3. Firm focuses on evaluating the performance of operating systematically. This can help to improve a function effectively.	5	4	3	2	1
4. Firm encourages keeping the information that is useful to the organization obviously. This results in the ability development of the operation visibly.	5	4	3	2	1
5. Firm always focuses on the following of a functional environment. This approach appoints the method of the operation to keep pace with the events.	5	4	3	2	1
Environmental Adaptation Orientation 6. Firm believes that the well adaptation to the environment allows the organization to survive in every situation.	5	4	3	2	1
7. Firm emphasizes the analysis of the environmental changes continuously, so this gives more effective operational planning.	5	4	3	2	1
8. Firm encourages businesses to improve the operational processes in line with changing circumstances. This helps the organization	5	4	3	2	1
9. Firm supports the operational planning to accord with the change of environment, thus it will make the organization to gain maximum benefit from the operation.	5	4	3	2	1
Business Development Capability 10. Firm believes that the continuous growth of the business helps the organization to achieve and succeed very well.	5	4	3	2	1
11. Firm always focuses on an increasing the quality of products and new services, this enables the organization to better respond to the customer needs.	5	4	3	2	1
12. Firm promotes to increase sales channels for more diversity. It gives a better customers service.	5	4	3	2	1
13. Firm places importance on a substantial market expanding. This will help the company achieve the operation even more.	5	4	3	2	1
14. Firm commits to develop a relationship with the customers and suppliers continuously which helps the organizational administration achieves the goals well.	5	4	3	2	1

Section 3 (continued)

Strategic Renewal Capability	Level of Agreement				
	Strongly Agree 5	Agree 4	Neutral 3	Disagree 2	Strongly Disagree 1
Organizational Innovation Enhancement					
15. Firm believes that using new operating methods in the organization gives more ability and potential for the competition.	5	4	3	2	1
16. Firm emphasizes the using of a new technique, technology and approaches to the organization that improves more operational efficiency.	5	4	3	2	1
17. Firm constantly gives priority to the education, research and development of new products that will better help to respond the needs of customers.	5	4	3	2	1
18. Firm encourages bringing new ideas for using in the implementation process. This will increase more capacity and potential of the organization.	5	4	3	2	1

Section 4: Opinion on businesses outcomes of software businesses in Thailand

Business Outcomes	Level of Agreement				
	Strongly Agree 5	Agree 4	Neutral 3	Disagree 2	Strongly Disagree 1
Goal Achievement Excellence					
1. Firm's operational results achieve excellent accomplishment according to the stated goal.	5	4	3	2	1
2. Firm has allocated resources appropriately and cost-effectively as planned as well.	5	4	3	2	1
3. Firm is able to control costs effectively.	5	4	3	2	1
4. Firm is administrated professionally and has been well recognized by the accomplice.	5	4	3	2	1
Stakeholder Expectations Fulfillment					
5. Firm has understood the business needs and delivered the best products which fit the customer expectations.	5	4	3	2	1
6. Firm convinces customers to buy more products by offering their unique and oddity.	5	4	3	2	1
7. Firm creates new businesses that respond to customers' preference which are not predictable, and satisfy them.	5	4	3	2	1
8. Firm rapidly responds to the needs of stakeholders in every situation.	5	4	3	2	1
Dynamic Corporate Competitiveness					
9. Firm is able to offer new products to the market with high quality and reasonable price, and better than its competitors in the market regularly.	5	4	3	2	1
10. Firm has always earned the trust and confidence of customers about the product quality and superior service more than other competitors	5	4	3	2	1
11. Firm has continuously developed new products to become more modern and better than other competitors.					

Section 4 (continued)

Business Outcomes	Level of Agreement				
	Strongly Agree 5	Agree 4	Neutral 3	Disagree 2	Strongly Disagree 1
12. Firm is able to quickly counter with the movement of competitors in the market from past to present and link to the future.	5	4	3	2	1
13. Firm totally operates as a wonderful and better than their competitors in the same industry continuously.	5	4	3	2	1
organizational survival 14. Firm has an outstanding cultural competition which is a fundamental of the successful enterprise's operation.	5	4	3	2	1
15. Firm ensures that the business can survive and compete in the industry from now to the future.	5	4	3	2	1
16. Firm has been constantly recognized by clients and stakeholders as a quality organization, and is administered effectively and efficiently.	5	4	3	2	1
17. Firm is able to retain its old customers and increase new customers steadily.	5	4	3	2	1
18. Firm earn greater manage the business very well under the intense and uncertain competitive environment.	5	4	3	2	1
Firm Sustainability 19. Firm s business is likely to grow and expand continuously when compared to the past.					
20. Firm is able to make an increased profit when compared to the results of operation in recent years.	5	4	3	2	1
21. Firm's financial position is continuously better and stable.	5	4	3	2	1
22. The growth rate of the firm's market share has increased steadily when compared to the past.	5	4	3	2	1
23. Firm earn greater financial performance beyond its competitors with adequate resources and funding to coped with change and uncertainty in the future	5	4	3	2	1

Section 5: Opinion on internal environmental factors of software businesses in Thailand

Internal Factors Affecting Renewal Capability	Level of Agreement				
	Strongly Agree 5	Agree 4	Neutral 3	Disagree 2	Strongly Disagree 1
Forward-Looking Vision 1. Firm believes that the guidelines and policies that focus on future goals will make the administration more efficient.	5	4	3	2	1
2. Firm focuses on the analysis and forecast of the competitive environment in the future to adopt a plan of operation and strategy of the organization for more efficiency.	5	4	3	2	1
3. Firm promotes employee learning toward change in order to be prepare to future modifications and adjustments	5	4	3	2	1

Section 5 (continued)

Internal Factors Affecting Renewal Capability	Level of Agreement				
	Strongly Agree 5	Agree 4	Neutral 3	Disagree 2	Strongly Disagree 1
4. Firm promotes the application of techniques and modern management that in line with the changes. This helps the operation achieves a goal.	5	4	3	2	1
5. Firm always advocates an investment in technology that will allow the company to develop and improve a better process continuously	5	4	3	2	1
Learning Utilization 6. Firm believes that learning in an organization will allow the development of more efficient operation.	5	4	3	2	1
7. Firm fosters the implementation of business experience in the past utilized in operation which helps the administration to achieve the goal well.	5	4	3	2	1
8. Firm attends to the error that occurred in the past by using as a guide to the current operation. This will allow the implementation plans of the organization more effective.	5	4	3	2	1
9. Firm promotes employees to learn how to study and search a new process continuously. This will help the organization succeed even more.	5	4	3	2	1
10. Firm supports to do a database of relevant knowledge and experience of the staff and the organization systematically and substantially which gives a better efficient operation	5	4	3	2	1
Resources Complementarity 11. Firm believes that having sufficient resources and proper operation. It allows the implementation of a more efficient organization.	5	4	3	2	1
12. Firm supports personnel to attend a training continuously, which makes the organization administrates itself better.	5	4	3	2	1
13. Firm focuses on the allocation of the budget to develop an organization systematically and substantially. This will urge the administration to fully respond to the changes.	5	4	3	2	1
14. Firm places importance on the acquiring new technologies into the enterprise continuously which will give a better management.	5	4	3	2	1
15. Firm realizes that the management of existing resources for the maximum benefits and conforms to the situation will enable the organization to fight and compete effectively.	5	4	3	2	1

Section 6: Opinion on external environmental factors of software businesses in Thailand

External Factors Affecting Renewal Capability	Level of Agreement				
	Strongly Agree 5	Agree 4	Neutral 3	Disagree 2	Strongly Disagree 1
Technology Growth 1. Nowadays, technology more advances. As a result, a business needs to develop itself continuously to be able to manage effectively.	5	4	3	2	1
2. An information technology is various, so it makes the enterprise to develop the concept and principles in the selection of a suitable strategy for the business operation.	5	4	3	2	1
3. Technology which is growing and changing at present affects to the business that has to develop its ways and applications to gain more benefit.	5	4	3	2	1
4. Technological development occurring continuously enables a business to focus on education, learning and understanding to apply the technology to be more efficient.	5	4	3	2	1
5. The modern and progressive information technology allows business to perform tasks more quickly and easily, that can reduce the errors of work.	5	4	3	2	1
Market Change 6. At the present, rules and regulations of marketing have changed constantly, thus they impact to the business that has to learn and change the way to operate in order to comply with the situation.	5	4	3	2	1
7. Clients, markets and other stakeholders have more and several needs, which affect the business to modify an operation continuously for the great success administration.	5	4	3	2	1
8. A customer access channels are changed by technology and social behavior, hence they enable the enterprise to be modified to provide a wide range to reach more customers.	5	4	3	2	1
9. The economy fluctuation makes demand of stakeholders change. So, it affects the business to develop its managed ability continuously in order to ensure the implementation of the company's current and future existence.	5	4	3	2	1
Competitive Turbulence 10. Today, a business competition occurs severely, hence it makes the company to always seek new forms of strategy to create the distinctive products and services.	5	4	3	2	1
11. The increased number of competitors in the market affects the business to modify ways and methods to fit the competition..	5	4	3	2	1
12. The competitive situation is more complex, so the company has to seek various tactics and new ways in order to respond the customer's need in time.	5	4	3	2	1

Section 6 (continued)

External Factors Affecting Renewal Capability	Level of Agreement				
	Strongly Agree 5	Agree 4	Neutral 3	Disagree 2	Strongly Disagree 1
13. Customers and suppliers are authorized to negotiate more; in consequence the business needs to prepare for the various needs.	5	4	3	2	1

Section 7: Recommendations and suggestions regarding renewal capability of software business in Thailand

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Thank you for your time and attention to this matter. Please fold and return in provided envelope and return to me. If you desire a summary report of this study, please give your business card attached with this questionnaire. The summary will be mailed to you upon the completion of data analysis.

APPENDIX G

Letters to Experts

บันทึกข้อความ

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

เรียน อาจารย์ ดร.ศรัญญา รักษ์สงฆ์

ด้วย นายวศิน เพชรพงศ์พันธ์ นิสิตระดับปริญญาเอก หลักสูตรปรัชญาดุษฎีบัณฑิต สาขาวิชาการจัดการ (ปร.ด.) คณะการบัญชีและการจัดการ มหาวิทยาลัยมหาสารคาม กำลังศึกษาวิทยานิพนธ์ เรื่อง "ศักยภาพในการฟื้นฟูเชิงกลยุทธ์และการพัฒนาอย่างยั่งยืนในธุรกิจซอฟต์แวร์ในประเทศไทย" ซึ่งเป็นส่วนหนึ่งของการศึกษาตามหลักสูตรปรัชญาดุษฎีบัณฑิต ดังนั้นเพื่อให้การดำเนินการเป็นไปด้วยความเรียบร้อยและบรรลุตามวัตถุประสงค์ คณะการบัญชีและการจัดการ มหาวิทยาลัยมหาสารคาม จึงใคร่ขอความอนุเคราะห์จากท่านเป็นผู้เชี่ยวชาญตรวจสอบเครื่องมือวิจัยและข้อเสนอแนะเพื่อนำข้อมูลที่ได้ไปดำเนินการทำวิทยานิพนธ์ต่อไป ตามเอกสารแนบท้าย

จึงเรียนมาเพื่อโปรดพิจารณา

(รองศาสตราจารย์ ดร.ปพฤศย์บารมี อุดสาหะวาณิชกิจ)
คณบดีคณะการบัญชีและการจัดการ

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 นายวศิน เพชรพงศ์พันธ์ นิสิตระดับปริญญาเอก หลักสูตรปรัชญาดุษฎีบัณฑิต สาขาวิชาการจัดการ (ปร.ด.) คณะการบัญชีและการจัดการ มหาวิทยาลัยมหาสารคาม กำลังศึกษาวิทยานิพนธ์ เรื่อง "ศักยภาพในการฟื้นฟูเชิงกลยุทธ์และการพัฒนาอย่างยั่งยืนในธุรกิจซอฟต์แวร์ในประเทศไทย" ซึ่งเป็นส่วนหนึ่งของการศึกษาตามหลักสูตรปรัชญาดุษฎีบัณฑิต ดังนั้นเพื่อให้การดำเนินการเป็นไปด้วยความเรียบร้อยและบรรลุตามวัตถุประสงค์ คณะการบัญชีและการจัดการ มหาวิทยาลัยมหาสารคาม จึงใคร่ขอความอนุเคราะห์จากท่านเป็นผู้เชี่ยวชาญตรวจสอบเครื่องมือวิจัยและข้อเสนอแนะเพื่อนำข้อมูลที่ได้ไปดำเนินการทำวิทยานิพนธ์ต่อไป ตามเอกสารแนบท้าย

จึงเรียนมาเพื่อโปรดพิจารณา

(รองศาสตราจารย์ ดร.ปพนกษ์บารมี อุตสาหะวาณิชกิจ)
คณบดีคณะการบัญชีและการจัดการ

APPENDIX H

The Acceptance Letter from

ที่ ศธ 0530.10/ [illegible]

คณะการบัญชีและการจัดการ
มหาวิทยาลัยมหาสารคาม
อำเภอกันทรวิชัย จังหวัดมหาสารคาม
44150

10 มิถุนายน 2559

เรื่อง ขอความอนุเคราะห์กรอกแบบสอบถาม

เรียน กรรมการผู้จัดการ/หุ้นส่วนผู้จัดการ

ด้วย นายวศิน เพชรพงศ์พันธ์ นิสิตระดับปริญญาเอก คณะการบัญชีและการจัดการ มหาวิทยาลัยมหาสารคาม กำลังศึกษาวิทยานิพนธ์ เรื่อง "ศักยภาพในการฟื้นฟูเชิงกลยุทธ์และการพัฒนาอย่างยั่งยืนในธุรกิจซอฟต์แวร์ในประเทศไทย" ซึ่งเป็นส่วนหนึ่งของการทำวิทยานิพนธ์ หลักสูตรปริญญาดุษฎีบัณฑิต (ปร.ด.) และการศึกษาในครั้งนี้ได้เน้นให้นิสิตศึกษาข้อมูลด้วยตนเอง ดังนั้น เพื่อให้การจัดทำวิทยานิพนธ์เป็นไปด้วยความเรียบร้อยและบรรลุวัตถุประสงค์ คณะการบัญชีและการจัดการ มหาวิทยาลัยมหาสารคาม จึงใคร่ขออนุญาตให้ นายวศิน เพชรพงศ์พันธ์ ศึกษาและเก็บรวบรวมในรายละเอียดตามแบบสอบถามที่แนบมาพร้อมนี้

คณะการบัญชีและการจัดการ มหาวิทยาลัยมหาสารคาม หวังเป็นอย่างยิ่งว่าจะได้รับความอนุเคราะห์จากท่านในการให้ข้อมูลในครั้งนี้ และขอขอบคุณมา ณ โอกาสนี้

ขอแสดงความนับถือ

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คณบดีคณะการบัญชีและการจัดการ
มหาวิทยาลัยมหาสารคาม

สำนักบริหารหลักสูตรระดับบัณฑิตศึกษาและวิจัย
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RESEARCH

2015 Phetphongphan, Wasin and Ussahawanitchakit, Phaprukbaramee "Organizational citizenship behavior and firm success: an empirical research of hotel businesses in Thailand"
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