STRATEGIC TRANSFORMATIONAL MANAGEMENT CAPABILITY AND FIRM SUSTAINABILITY: AN EMPIRICAL STUDY OF ELECTRONIC AND ELECTRICAL APPLIANCE BUSINESSES IN THAILAND

BY

SIRIWONG EARSAKUL

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

February 2018

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ABSTRACT

Businesses and economic environments are considered to have high competition, therefore firms have to create the way to drive their businesses through transformational management. The main purpose of this research were to examine the relationships among strategic transformational management capability on firm sustainability through the mediating influences of valuable practice improvement, new process development, working method creation, and firm performance. Moreover, this research is to investigate the influences of five antecedents, including, continuous adaptation leadership, dynamic knowledge management, organizational resource readiness, best business experience, and competitive pressure intensity, and change climate as moderating variables. The data was collected from the survey of 167 electronic and electrical appliance businesses in Thailand. The managing directors or managing partners of each firm were the key informants. The response rate was 26.17%. The nineteen hypothesized relationships among variables were analyzed by using multiple regression analysis.

The results of this study showed that there were two dimensions of strategic transformational management capability, managerial technological implementation orientation and dynamic business strategy application, had the most significant impact on consequences. Therefore, valuable practice improvement, new process development, working method creation had a positive influence on firm performance, while firm performance have influence on firm sustainability. Additionally, two antecedents including dynamic knowledge management and competitive pressure intensity have the most influence for each dimension of strategic transformational management capability

Moreover, change climate has a significant moderating role with best business experience, modern management innovation capability, managerial technological implementation orientation. This research may be useful for scholars, managing directors and partners, and also those who wish to success in setting firm's policies.

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CHAPTER I

INTRODUCTION

Overview

As the environment of competition in the firms, the businesses have been altered their businesses all the time that allowed businesses need to adapt themselves to the changing external organizing environments such as economics, technologies, and firms competitions. The firms with high performance have to be flexible and developed the preparation for the change which are essential for managers. Moreover, businesses have to be alert and intelligent in order to manage the strategic transformation effectively. Changing always occurred in a firm in turn into thus the firm needed to have decent managing. Meanwhile, the significant role of leader was to manage the change in the firm correctly. The changing of a firm is the process of firm change, which is still in progress, to encourage the firm to meet with success. Especially, transformational leaders must not only suggest the changes taking place in the firm but also conduct employee morale, which was frequently a challenge during times of change. Transformational management typically relates proactive adjustments to company vision or instruction and the subsequent management of those moves (Nalau and Handmer, 2015).

Transformational management is one of the key approaches in business, which was required to make adjustments or attempt mechanisms to organize more effectively firms. Specifically, the firms could have the potential to compete and survive sustainably. To retain competitiveness in this environment, the needs and expectations of firm's stakeholders needed to be innovated, improved continuously and managed by the firm (Calvo-Mora, Navarro-García, Rey-Moreno, and Perianez-Cristobal, 2016). Moreover, the growth and development of a firm is closely related to the need to carry out changes in its management system (Skalik, 2016) and firm must have a proper management system to reach a goal (Calvo-Mora et al., 2016). Due to rapid change in innovation and modern technology, firms' strategies and structure need to be continuously renewed to assure them of the survival and success of the business

performance. The firms increasing survival and growth (or firm stability) depend on their abilities (Intarapanich, Ussahawanitchakit, and Suwannarat, 2011). For this reason, firms need to apply competitive strategies to deal with the changing situations. Therefore, firms need to review and revised their strategies, especially in terms of management, which it is critical to firm survival and firm growth.

In other components, strategic orientation is also necessary in terms of change management in a firm that derived from the common strategy which had an inclusive influence on all areas and forms of its activities (Skalik, 2016). A strategy was needed when planning change, whether it is crisis or choice driven (Price and Chahal, 2006). It is claimed that open communications, information flow, teamwork and collaboration, vision, responsibility, leadership and shared vision, effective problem solving, respect, support and developing others, participation as well as strategic management are critical factors to provide firms achievement in change management (Porras & Hoffer, 1986). Further, management procedure is a key attribute in planning, organizing, managing and controlling the work of members of the firm and the use of all available resources for the firm stimulus goals (Stoner & Freeman, 1995). The concept of management provides the training and developing which needed to perform and respond to the change (International Federation of Accountants, 1998). International Federation of Accountants' research in 1998, had been applied the notion of both management and transformation in order to explore firms sustainability and performance. Originally, the idea of transformation was normally applied and widely explored across multi fields such as mathematics, genetics, leadership, organizational change, education, and theatre (Nalau and Handmer, 2015). The mechanism of transformation was learning, analyzing, and creating solutions in a time of variation, generating proposed solutions. Hence, transformational management is the most valuable organizational resources and its strategic management capability is the most crucial source of organizational competitive advantage in a progressive more dynamic and prompt changing environment (Kogut and Zander, 1992).

As mentioned above, strategic transformational management capability, which is the focus of this research, referred to the ability to think systematically in changing working method to achieve a goal by creating skills, concepts and new working behavior, and this ability applies technologies which had modern innovation of

management in the concept of flexible firm to make it apparel to change environment (Garcés-Galdeano, García-Olaverri, and Huerta, 2015; Stockport, 2000).

The electronic and electrical appliance business has not merely played an important role in Thailand's economy as a main growth driver, but has also made Thailand Southeast Asia's electrical and electronics manufacturing hub. Thailand's government, recognizing the important role the electrical and electronics industry will continue to play in Thailand's economic development, offers attractive investment incentives to attract major global players in the electrical and electronics industry. This research also adopts electronic and electrical appliance context into the research. The notion of innovation specifically electronic is now rapidly growing businesses facing the challenges pertaining. The product index had increased slightly by 6.46% since last year and in 2017 the expected number should go up more than last year by 2.3% (International Data Center, 2016). Therefore, electronic and electrical appliance business must improve or create their management in many ways in order to effective management together with adapting themselves to follow the rapid change. For this reason, electric and electronic business is useful to use in this research for understanding the innovative technology that can assist business success.

Therefore, the researcher found that there are few researcher study this variable and some research has a few dimensions. Therefore, the researcher found gaps in research on strategic transformational management capability. For that reason, the researcher studied the variable by integrating them to create five new dimensions which can be the whole view of the firm's strategic management in a various perspective. This research contributed the new dimensions of strategic transformational management capability and the antecedent factors to increase capability outcomes in order to address the gap in strategic transformational management capability. Furthermore, this research aims to expand empirical studies to find out a factor of strategic transformational management capability, and to increase the sustainable in a Thai context specifically electronic and electrical appliance industry. Results of the research were identified in dimensions of strategic transformational management capability and explained the effect factors of strategic transformational management capability for firm sustainability relationship. The results will benefit both academic and managerial practices.

Purpose of the Research

The main objective of this research is to examine the effect of strategic transformational management capability on firm sustainability. The specific objectives are as follows:

1. To investigate the influence of strategic transformational management capability (proactive operational planning competency, flexible organization structure focus, modern management innovation capability, dynamic business strategy application, and managerial technological implementation orientation) on valuable practice improvement, new process development, working method creation, firm performance, and firm sustainability,

2. To examine the impact of valuable practice improvement, new process development, working method creation on firm performance,

3. To examine the impact of firm performance on firm sustainability,

4. To investigate the effect of antecedences (continuous adaptation leadership, dynamic knowledge management, organizational resource readiness, best business experience, and competitive pressure intensity) on each dimension of strategic transformational management capability, and

5. To examine the impact of continuous adaptation leadership, dynamic knowledge management, organizational resource readiness, best business experience, and competitive pressure intensity on each dimension of strategic transformational management capability via moderating effect of change climate.

Research Questions

The key research question of this research is how strategic transformational management capability affects firm sustainability. Furthermore, the specific research questions are as follows:

1. How does strategic transformational management capability have an effect on valuable practice improvement, new process development, working method creation, firm performance and firm sustainability?,

2. How do valuable practice improvement, new process development, and working method creation have an effect on firm performance?

3. How does firm performance have an effect on firm sustainability?

4. How do the five antecedents (continuous adaptation leadership, dynamic knowledge management, organizational resource readiness, best business experience, and competitive pressure intensity) have an effect on each dimension of strategic transformational management capability?

5. How do continuous adaptation leadership, dynamic knowledge management, organizational resource readiness, best business experience, and competitive pressure intensity have an effect on each dimension of strategic transformational management capability via moderating effect of change climate?

Scope of the Research

This research attempts to investigate theoretical model of the relationships strategic transformational management capability on firm sustainability through valuable practice improvement, new process development, working method creation as mediating influences. Additionally, continuous adaptation leadership, dynamic knowledge management, organizational resource readiness, best business experience, and competitive pressure intensity are assumed to become the antecedents of strategic transformational management capability via the moderating effects of change climate.

From a conceptual framework, strategic transformational management capability comprises of five critical dimensions; namely, proactive operational planning competency, flexible organization structure focus, modern management innovation capability, dynamic business strategy application, and managerial technological implementation orientation and the five critical dimensions are hypothesized to be positively associated with valuable practice improvement, new process development, working method creation, firm performance, and firm sustainability. The consequences of strategic transformational management capability in this research consist of valuable practice improvement, new process development, and working method creation are hypothesized to positively mediate strategic transformational management capability and firm performance. For completing the conceptual model in this research, continuous adaptation leadership, dynamic knowledge management, organizational resource readiness, best business experience and competitive pressure intensity are hypothesized

to become antecedents and positively impact on strategic transformational management capability. In the same way as the research proposes to change climate as a moderating effect of the relationships between the five antecedents and strategic transformational management capability.

In this research, the dynamic capabilities, strategic behavior theory and contingency theories are used to draw a conceptual framework and develop a set of hypotheses. 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. Dynamic capabilities theory and strategic behavior theory are implemented to explain the ability of firms which could respond to change that occurs in its internal and external environment and would enable to be competitive advantage and would lead to greater performance in long term. In this research, would be able to gain and archive its competitive advantage and sustainable performance.

The contingency theory purposes that a better understanding of the nature of organizational strategies is received by examining its antecedents in the forms of both internal and external environmental factors (Venkrataman and Camillus, 1984). The contingency theory in this research explains the relationships among strategic transformational management capability antecedents consisting of continuous adaptation leadership, dynamic knowledge management, organizational resource readiness, best business experience, and competitive pressure intensity. Moreover, the contingency theory is also employed to explain the role of the moderating variable.

The data will be collected by questionnaire survey from the electronic and electrical appliance business in Thailand. The population of this research is all of completed addresses and presented the company registration of all the electronic and electrical appliance business in Thailand totally 656 firms from the database of the Department of Business Development (www.dbd.go.th). The electronic and electrical appliance business in Thailand offers the potential to simultaneously examine five dimensions of strategic transformational management capability. The electronic and electrical appliance business contexts now are more fast growing businesses facing the challenges pertaining (Singh, Lobo, and Karwa, 2012). Therefore, electronic and electrical appliance business must improve or create their management in many ways in

order to effective management together with adapting themselves to follow the rapid change.

Organization of the Dissertation

This research is structured in five chapters. Chapter one presents an overview of the research. Chapter two provides the relevant literature, describes the theoretical framework to explain the conceptual model, and develops the involved hypotheses for testing. Chapter three describes the research design and data collection procedure regarding the electronic and electrical appliance business in Thailand. The description of the research design including a discussion of the sample design, the variable measurements of each construct, the instrumental verification, the statistical analysis techniques for testing the hypotheses, and the table of summary of definitions and operational variables of constructs. Chapter four shows the result of statistical testing and discussion. Finally, chapter five shows the conclusion, theoretical and practical contributions, limitations, and suggestions for future research directions.

CHAPTER II

LITERATURE REVIEW AND CONCEPTUAL FRAMEWORK

This research intends to examine the framework to understanding strategic transformational management capability in altering perspective of dynamic capabilities, contingency and strategic behavior theories to gain more understanding of the phenomenon. This chapter provides literature review and conceptual framework.

This chapter is organized into three major sections. The first section provides theoretical foundation dynamic capabilities, contingency theory, and strategic behavior theory. The second deals with literature review of strategic transformational management capability. The final presents the conceptualization and hypotheses of strategic transformational management capability which are used to formalize theoretical relationships among the constructs.

Theoretical Foundations

This research suggests a variety of theories including dynamic capabilities, contingency and strategic behavior theories. The relationship between variables in the framework, hypotheses and conclusion of the data can be explained though these theories.

Dynamic Capabilities Theory

The resource-based view (RBV) is an important theory describing how firms success progress and sustainable competitive advantage (Penrose, 1959; Wernerfelt, 1984; Freiling, 2004). RBV theorists explain the internal resources of firms as being able to combine for firm survival and sustainability to gain superior performance (Barney, 1991; Penrose, 1959; Wernerfelt, 1984). Therefore, the concept of dynamic capabilities is the new contemporary strategic management research. With regard to the resource-based view of the firm (RBV), a firm can succeed competitive advantage when resources and capabilities characterize four attributes (VRIN): valuable (V), rare (R), inimitable (I), and non-substitutable (N) (Barney, 2001). Additionally, creating hurdles

imitates implement sustaining. Some researchers on the dynamic capabilities are providing resource-based view to dynamic markets (Helfat & Peterraf, 2003). Moreover, Teece (2007) present dynamic capabilities theory that focuses on the capability to respond to transformations in the environment and intense competition.

The dynamic capabilities approach has frequently been used in strategic literature (Winter, 2003; Teece, 2014). A firm's dynamic capabilities are its ability "to renew itself in the face of a changing environment by changing its set of resources" (Danneels, 2010, p. 1). Teece (2007, p. 1319) can be disaggregated into these capabilities: "(1) to sense and shape opportunities and threats, (2) to seize opportunities, and (3) to maintain competitiveness through enhancing, combining, protecting, and when necessary, reconfiguring the business enterprise's intangible and tangible assets". Romme, Zollo, and Berends (2010) found that dynamic capabilities can improve a firm's ability to transform and modify to new environmental demands. In a transforming environment, hence, dynamic capabilities are a crucial resource by which to continue competitive advantage (Haleblian, Mcnamara, Kolev, and Dykes, 2012). In addition, dynamic capabilities are empowering strategy administration, helping notify and make accurate decisions about what to do (direction and vision) and raising the firm's readiness and ability to accomplish it (Feiler and Teece, 2014). These proceedings are related for corporate strategy (portfolio strategy, mergers and acquisitions, ecosystem combining/partnering strategy), business strategy (whole or single business unit), functional or department strategy, or project strategy (Feiler and Teece, 2014).

Teece, Pisano, and Shuen (1997) defined dynamic capabilities as the firm's ability to integrate, create, and reconfigure internal and external abilities to respond a quickly changing environment. In addition, Wang and Ahmed (2007) explain dynamic capabilities as a firm's behavior continuously to integrate, reconfigure, renew and recreate its resources and capabilities and, most significantly, reform and reconstruct its core capabilities in response to the transforming environment to reach and sustain competitive advantage. Dynamic capability is important concept in the strategy literature (Helfat and Peteraf, 2009 ; Shuen, Feiler, and Teece, 2014 ; Teece, 2007) as it explains how leading firms integrate, build and reconfigure internal and external capacities into learned forms of collective activity (Zollo and Winter, 2002) to gain and

maintain competitive advantage in rapidly changing and highly complex environments (Feiler and Teece, 2014). Since Teece, Pisano, and Shuen's (1997) found that dynamic capabilities the ability of a firm to purposively make, extend, or adapt its resource base (Helfat et al., 2007) have become a main area of research in strategic management (Barreto, 2010). Despite this growing interest and agreement between scholars that strategic resources and ordinary abilities be conductive to competitive advantage and firm performance (Crook, Ketchen, Combs, and Todd, 2008).

A dynamic capability is thus an organizational ability to learn and adhere to monitoring internal and external environments, examine the new information gained in connect to existing knowledge, to take this knowledge to inform decision making in relation to the strategic goals of the firm, its abilities and limitation, before enacting change (Ferdinand, 2015). Lee, Lee, and Rho (2002) found that dynamic capabilities are conceived as a source of sustainable advantage in Shumpeterian regimes of rapid change. While, Helfat and Peteraf (2003) explain that dynamic capabilities do not directly affect on productivity for the firm in which they dwell, but indirectly contribute to the productivity of the firm.

Most of the studies conceptualize dynamic capabilities as specific processes focus on product or technology development and transfer (Cetindamar, Phaal, and Probert, 2009; Helfat, 1997; Lawson abd Samson, 2001), although some emphasize inter organizational collaboration and capability acquisition (Capron and Mitchell, 2009; Jarratt, 2008), organizational restructuring (Karim, 2009; Skilton, 2009) or business-model adaptation (Newbert, 2005; Wilson and Daniel, 2007). However, a larger number of studies conceptualize dynamic capabilities through generic knowledge-related processes.

The formation of a firm’s strategic orientation is not independent of the environment in which the firm operates, and they stated suggests that a firm’s strategy and performance depend essentially on the effect of the environmental factors that the firm encounters, together with market uncertainty and technological change (Gatignon and Xuereb, 1997). Therefore, Eisenhardt and Martin (2000) found that dynamic capabilities have been paid more attention in strategic management. Because dynamic capabilities fulfills resource-based view of the firm and embeds in organizational process. Teece, Pisano, and Shuen (1997) stated that the idea of dynamic capability has

been spread to consider as the unique capability of firms to integrate, build, and reconfigure internal and external competences to address rapidly changing environment. In addition, dynamic capabilities implicated the organizational processes by which resources are employed to create growth and improvement within changing environments (Lado, Boyd, Wright, and Kroll, 2006).

From this perspective, Zhou and Li (2010) found that firms must adapt, integrate and reconfigure their resource and abilities continuously in reaction to changing environment condition. Moreover, some competencies want time to be developed, and managerial strategies can also play a crucial role in the improvement of new capabilities. In summary, firms must have both dynamic capabilities and resources and capabilities to create a competitive advantage (Ray, Barney, and Muhanna, 2004). In this research, dynamic capability is applied to describe ability of firms to adapt in changing environment. Many studies show that dynamic capabilities of organizational enhance performance (Weerawardena, O'Cass, and Craig, 2006). This is consistent with Prieto, Revilla, and Prado (2009), who argue that build dynamic capabilities of organizational is one of the best ways to create competitive advantages.

This research applies dynamic capabilities to describe the relationships between independent variable and consequence, strategic transformational management capability (proactive operational planning competency, flexible organization structure focus, modern management innovation capability, dynamic business strategy application and managerial technological implementation orientation), valuable practice improvement, new process development, working method creation, firm performance and firm sustainability. Thereby strategic transformational management capability as one of firm’s capability can integrate, build, renew and reconfigure the core competencies in rapid environment.

Strategic Behavior Theory

There is a theory which study about behavior of making decision in some situations in order to predict how people behave in making decisions to achieve their goals. This theory is called game theory which is about negotiation, and it is studied and used broadly. Game theory is the theory of strategic interaction. A game is a mathematical instrument that serves the purpose of formalizing strategic interactions

among agents (Lambertini, 2011). It is denoted by a set of players, a set of strategies, and a set of payoffs. Game theory assumes that each player rationally chooses a strategy in order to pursue the maximization of his payoff and every other player will attempt to maximize their payoff. Therefore, an outcome is a representative of rational behavior and it is a Nash equilibrium. There are two standard ways of visualizing a game: the strategic form (or normal form) that has the aspect of a matrix and is more suitable for simultaneous games, and the extensive form (or tree) used to formalize games with a time dependent sequencing of moves. The significant applications of game theory are simultaneous games, sequential games, and incomplete information games.

Strategic behavior is most widely studied within the social sciences by using the framework of game theory (Dutta, 1999). The knowledge of game theory helps managers: 1) to find the best long-run strategy which will change the market environment in their behalf; 2) to find the optimal course of short-run tactical actions in terms of the current business conditions (Nikolova and Neycheva, 2014). The strategic behaviors are modeled using game theory, with a little more emphasis on firm' behavior. The analysis of strategic behavior starts by formulating a game. A game is made of players, possible strategies for each player, utility function for each player and set of rule. In industrial organization, player are firm, strategies are going to be prices, quantities, advertising, product quality, research and development (R&D), capacity, etc. And, utilities are going to be profits. Strategic behavior refers to actions taken by firms which aim to influence the market environment in which they compete. In regard to this definition, strategic behavior involves primarily long-run actions and decisions such as production capacity, research and development (R&D), investment, location, advertising, product differentiation (Nikolova and Neycheva, 2014).

On the other hand, in the economic theory as well as the Game Theory, a strategic action is an action in which the company takes into account the expected reactions of its main rivals. Strategic actions could be divided into two main groups; the strength of competition and respectively interaction. Therefore, strategic actions are more likely to occur in industries with a small number of buyers or sellers.

The move of each company affects its rivals and their expected response must be kept in mind while shaping the best course of firm’s actions. A common assumption of the non-cooperative oligopoly theory is that each firm chooses its strategy so as to

maximize profits, given the profit-maximizing decisions of other firms (Nikolova and Neycheva, 2014).

A firm's strategic orientation has an effect on strategic directions which are used by a firm to make appropriate behaviors for the continuous superior performance of the business (Narver and Slater 1990). A firm’s resources are invested in activities that has an effect on its strategic orientation. Three key strategic orientations can be specified from the list of factors which point out the success or failure of new products: the firm's consumer orientation and its competitive orientation often covered jointly under the label of market orientation and the firm's technological orientation. While interfunctional coordination has been thought as part of the market orientation concept (Narver and Slater, 1990). Thompson (1967) review the organizational behavior literature and defined construct next as an important perspective of the organizational structure which is essential for receiving full advantage from an appropriate strategic orientation mix.

Organizational structure and firm behavior are significant elements of strategy implementation, it stands to reason that superior performance is contingent on how well the structure and behavior are aligned with the require of a specific strategy (Olson, Slater, and Hult, 2005). Therefore, strategic behavior is basic decisions that take into account the possible reactions of others. For understanding strategic behavior we use game theory. Economists have found that many examples of strategic behavior can be understood by relying on the core concepts of incentives and information. Snell (1992) found that this view of connect among strategy and behavior is useful because it provides a clear explanation of why behavior should be connected to strategy and because it posits a testable mediating construct (required behaviors). Therefore, strategic behaviors have the ability to make superior performance through improving the execution of business strategy (Gatignon and Xuereb, 1997; Slater and Narver, 1995).

This research applies strategic behavior theory to describe the relationships between independent variable and consequence, strategic transformational management capability (proactive operational planning competency, flexible organization structure focus, modern management innovation capability, dynamic business strategy application and managerial technological implementation orientation), valuable practice

improvement, new process development, working method creation, firm performance and firm sustainability. Thereby strategic transformational management capability is one of firm's abilities to choose its strategy which improve working operation, and firm’s performance will be better.

Contingency Theory

In an era of globalization, organizational management needs to be consistent with the environment and the situation. The executive is the key person for making decisions in all situations. The firm believes that the situation determines what management does. The contingency theory is used to describe the phenomena of the firm’s flexibility to the environmental context factor. The core concept of the contingency theory is often used to describe research phenomena in all business management, marketing, finance, economic, and accounting literature. It tries to identify and evaluate the conditions under what is likely to occur (Schoech, 2006), then it decides the best practices and solutions regard the emerging situations.

Scholars using the contingency theory show that firms are more successful when the arrangement of their structures and processes are internally consistent and suit their environmental demands (Van De Ven, Ganco, and Hinings, 2013). A firm’s performance outcomes are the result of this fit between its external context and internal features (Garud, Tuertscher, and Van de Ven, 2013). The contingency theory examines the relationships between various endogenous and exogenous contextual factors (Wallace and Kreutzfeldt, 1991). These external factors are environmental or industrial factors such as industry competition, government regulations, business environmental uncertainty (Govindarajan, 1984), stakeholder involvements and expectations, technological change, society, and economic conditions (Sauser, Reilly, and Shenhar, 2009). Endogenous factors are the organizational factors or internal factors such as corporate vision, organizational climate, firm resources, experience, leadership and firm policy (Lawrence and Lorsch, 1967). The fits between exogenous and endogenous factors are deliberate organization and firm performance. Consequently, organizational performance relates to the environment and firm, which the organizational practice created or improved in accordance with the environment (Drazin and Van de Ven, 1985).

Contingency theory is a branch of behavioral theory in the field of management. Liang and Lu (2013) found that contingency theory can be applied to three main areas (1) organizational management (2) group leadership and (3) decision making. Contingency theory claims that there is no one best way to organize a corporation, lead a company, or make decisions. The various situations or conditions that are encountered in firms, leadership, and decision making are called contingency variables. Therefore, the emphasis of contingency theory is on how to respond to different situations by developing the most appropriate management approach (Liang and Lu, 2013).

Although organization theory attitudes emphasize fits between the general business environment and a firm's structure. Sauser, Reilly, and Shenhar (2009) show that the strategy literature advices that different levels of environmental variation need different degrees of decision-making comprehensiveness and strategic formality to fit organizational resources with opportunities and threats in the general business environment. Moreover, contingency theory places the important significance of situational effect on the management of firms and questions the existence of a single, best way to conduct or arrange a corporation (Donaldson, 2001). Therefore, suitable strategies are contextual and structured, based on the characteristics of the situation (Lawrence and Lorsch, 1986). Superior firm performance is achieved when strategy appropriately matches up with environmental contexts (Hambrick, 1983; Hofer, 1975; Porter, 1980).

Furthermore, this theory was applied to continuous adaptation leadership, dynamic knowledge management, organizational resource readiness, best business experience and competitive pressure intensity as an improvement of the firm which can enhance strategic transformational management capability. Thus, the contingency theory is employed to examine the effectiveness of the antecedent variables on strategic transformational management capability.

Therefore, dynamic capabilities describe firm’s abilities to respond to changes at internal and external environments, to gain competitive advantage and lead to better long-term operational performance. As the result, increased ability of the firm, this theory can explain relationship between the variables clearly. For the Contingency theory, if there are several variables involved in the research, a good theoretical

conceptual framework will reduce duplication of studying variables, which will reduce complication and complexity in the study. Therefore, in the stage of data collection and statistical analysis, this theory has been applied to improve the firm which can enhance the abilities to strategic transformational management capability. Strategic behavior describes the connection between strategy and behavior which is useful because it is a testable mediating construct. Therefore, strategic behavior has an ability to generate superior performance by improving business strategy (Gatignon and Xuereb 1997; Slater and Narver 1995).

However, there are several reasons why dynamic capabilities can reduce firm performance. Especially, in fact there is negative impact from dynamic capabilities that they need extensive management and are more complicated to use. The resulting difficulties and connected costs may not have an equivalent enhance in performance because dynamic capabilities have a high chance to fail, may lead to unnecessary change, and change the firm broadly (Drnevich and Kriauciunas, 2011). Leonard-Barton (1992) said that the more firm attempt is changed to use, the more the risk to fail (Cyert and March, 1963; Leonard-Barton, 1992). Moreover, rarely use and lack of suitable monitoring of dynamic capabilities because the firm to miss their effectiveness over time, therefore decreasing the enhanced revenue potential they provide (Helfat et al., 2007).

Other disadvantages of dynamic capabilities include mismanaging capabilities and/or not fully integrating them into the firm to realize their benefits (Tallon, 2008). A firm may use a capability that has a negative effect on performance. For example, such a situation could arise surrounding a capability that previously contributed to the firm's operations, but the prior approach to creating value is no longer salient to customers (Leonard-Barton, 1992) or interferes with the use of more productive capabilities.

And, strategic behavior theory, internal processes help to identify and limit the downside (i.e., loss of utility or value) from strategic decisions (Keeney and Raiffa, 1993; Miller and Reuer, 1996; Ruefli et al., 1999). As a result, firms are likely to abandon or replace dynamic capabilities should performance fall below a certain threshold.

Also, There is a suggestion, Thompson (1967) attend to constraints and contingencies residing within and outside the boundaries of the organization, some have suggested that contingency theory is not a very useful approach to explaining differences in the structure and effectiveness of organizations. Mohr (1971) describes that there were problems with the contingency ideas. In testing the consonance version of contingency theory, and found that there was no support for the hypothesis that work groups will be most effective when autocratic supervision is employed in routine jobs and democratic supervision in non-routine jobs. Therefore, the study data suggest that relationships between technology, structure, and organizational effectiveness are more complicated than contingency theory now assumes.

Furthermore, the limitation of dynamic capabilities are not the sources of competitive advantages and the real success of a business must rely on supporting of resources. If the firm has insufficient resources, it will not provide the competitive advantages (Roy and Roy, 2004). Weerawardena and Mavondo (2011), Salunke et al. (2011) and Schilke (2014), as dynamic capabilities are the basis of competitive advantage which the firms can do better than their competitors. If a business has a low dynamic capabilities, it will affect to its competitive advantage in a short and long term (Schilke, 2014). However, increasing dynamic capabilities of the firm, the firm has to develop the resources which it has in order to provide the development and integration in the firm. Moreover, it can help the firm to have an ability to adapt itself to environment and can innovate things by absorbing the knowledge to improve the capabilities and resources within the firm to reach benefit.

The limitation of strategic behavior described that there are two types of people who are not confident in working according to Strategic behavior. Firstly, people who are always afraid of failure. Secondly, people who are lack of confident to do something suit their real abilities. Therefore, it has bad effects to the firms. (Guo and Hassin, 2012). However, strategic behavior is the theory discusses about making decision process in various situations. The decision outcome does not depend on but it also depend on in case of wrong decision is made by only one person, the managing director in the firm cannot analyze and make decisions of competition certainly (Abbink and Schmidt, 2006).

The limitation of contingency theory. This theory provides a real reflection on the managing director that task of management is complex which to find a simple answer would be impossible. The managing director must be always knowledgeable and informative and can answer why management task never ends and why the management science must be always studied. As a result, these are the limitation of contingency theory (Sergiovanni, 1980). Contingency approach suffers from inadequately of literature. Therefore, it has not adequately spelled out various types of actions which can be taken under different situations. It is not sufficient to say that a managerial action depends on the situation.

In conclusion, the strategic transformational management capability phenomena in this research are described by three theories, which are the dynamic capabilities, the contingency theory, and strategic behavior theory. These theories are integrated to explain the variables. The dynamic capabilities' and strategic behavior theory main idea is to explain that strategic transformational management capability has a positive relationship to valuable practice improvement, new process development, working method creation, firm performance and firm sustainability. For five antecedents, this research proposes continuous adaptation leadership, dynamic knowledge management, organizational resource readiness, best business experience and competitive pressure intensity which are described by contingency theory in terms of external factors has affected on strategic transformational management capability. However, moderators, this research proposes change climate which is explained by contingency theory in term of strategic transformational management capability. Furthermore, these theories illustrate the relationships of strategic transformational management capability and its antecedent variables, consequential variables, and moderating variables.

Details of electronic and electrical appliance businesses

Thailand's electrical and electronics industry has flourished and developed for decades. The electrical and electronics industry has not merely played a key role in Thailand's economy as a main growth driver, but has also made Thailand Southeast Asia's electrical and electronics manufacturing hub. The establishment of electronic

clusters has been an important method of leveraging the abilities of firms that include Thailand's electronics industry. Closeness between firms and their input suppliers within the clusters increases communication and facilitates flow of goods while providing an environment that supports technology innovation and improved efficiencies. Another attractive perspective of the electronics cluster is streamlined supply chain management, which allows for decreased logistics costs. Manufacturers also useful from shared core technological innovations and human resource improvement programs (http://www.boi.go.th).

Therefore, electronic and electrical appliance businesses in Thailand are appropriately selected as the population, because this industry is a complex manufacturing process with uncertainty of technology, competitive turbulence, and with an industry sensitive to technology change (Verdu and Gomez-Gras, 2009). It is necessary to have sufficiently organizational management to perform, and needs flexibility to achieve competitive advantage. Moreover, the electronic and electrical appliance businesses that this industry is highly invested and relatively crucial to Thailand's economy in terms of production, exports, and employment. The electronic and electrical appliance businesses is an important industry for Thailand's economy. As this industry has expanded rapidly and continuously, it can generate big amount income from exports to many countries. Moreover, the industry plays an important role in supporting labor in the industrial sector with large numbers of employees. The import value of electronic and electrical appliance businesses in the first quarter of 2017 amounted to US$ 11,740.21 million by increased 2.43% (yoy). Export sector of electronics and electrical appliances expect to be stabilize because the economy of the main trading partners is still fragile and fluctuated. Export value of electronics and electrical appliances in the first quarter of 2017 was US$ 14,230.35 million, expanded by 6.90% (yoy), which was a decline in all export markets, in particular, the Chinese market decline by the most -9.97 percent (%yoy) (The Office of Industrial Economics, 2017). Therefore, the electronic and electrical appliance businesses in 2017 expects manufacturing increase by 2.3% compared to the previous year (https://www.gsb.or.th).

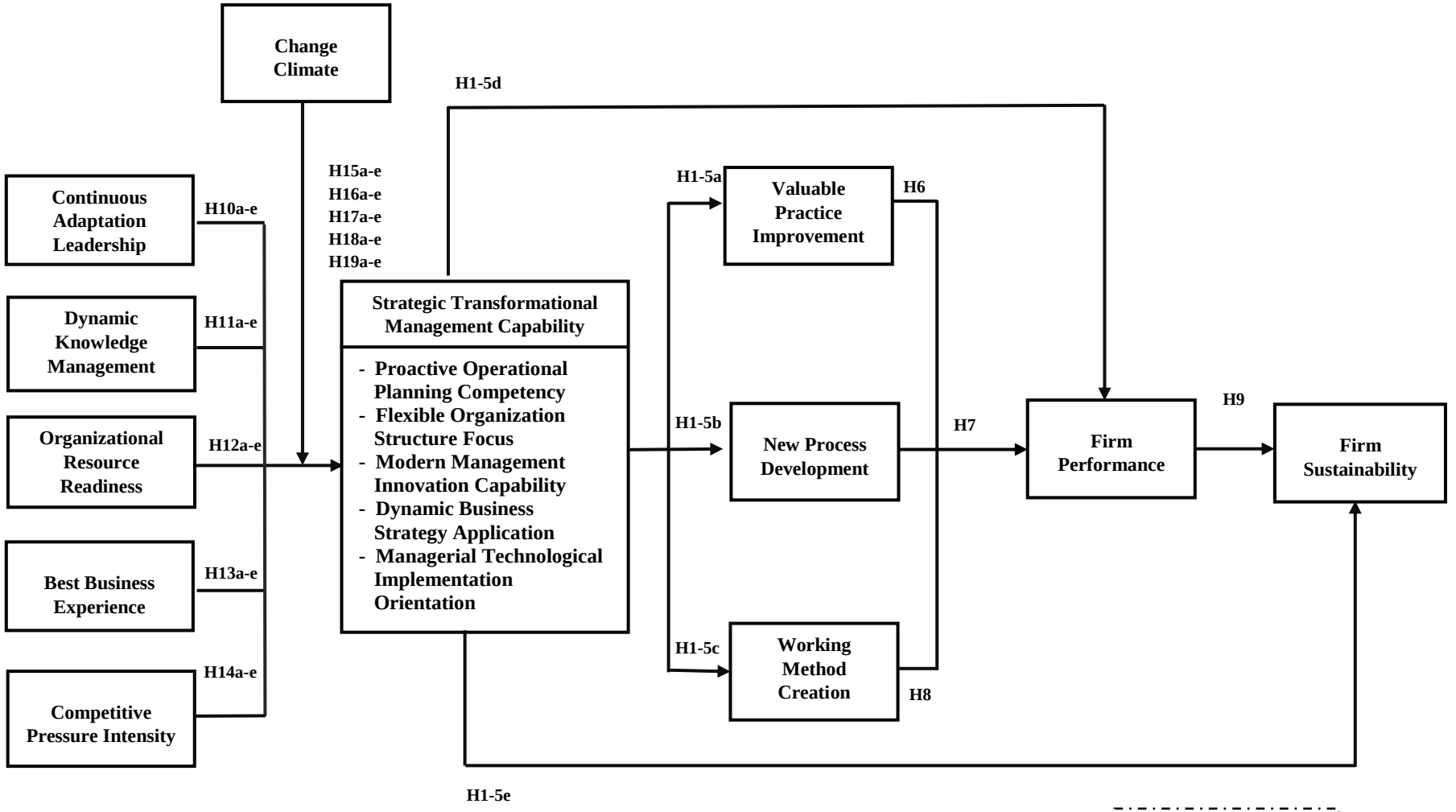
This research also adopts electronic and electrical appliance context into the research. The notion of innovation specifically electronic is now rapidly growing businesses facing the challenges pertaining. The product index had increased slightly by

6.46% since last year and in 2017 the expected number should go up more than last year by 2.3% (International Data Center, 2016). Therefore, electronic and electrical appliance businesses must improve or create their management in many ways in order to effective management together with adapting themselves to follow the rapid change. For this reason, electric and electronic business is useful to use in this research for understanding the innovative technology that can assist business success.

Relevant Literature Review and Research Hypotheses

Relevant literature reviews are used to explain the relationship among strategic transformational management capability, valuable practice improvement, new process development, working method creation, firm performance, and firm sustainability. Moreover, the concept of continuous adaptation leadership, dynamic knowledge management, organizational resource readiness, best business experience, and competitive pressure intensity are investigated to antecedent of strategic transformational management capability. Finally, change climate for change is examined as moderating effects. All constructs have a positive impact on each other. Thus, the conceptual framework is shown in Figure 1 below.

Figure 1: Conceptual Model of Strategic Transformational Management Capability and Firm Sustainability



Strategic Transformational Management Capability Background

The term transformation has long been well-known in the field of firms during the twenty-first century. Transformation is used by hundreds of firms. However, obviously, this word confuses many people with various kinds of change, technology advance, innovation and improvement in process or transitions. Nevertheless, even a few changes are all transformation (Daszko, Macur, and Sheinberg, 2005; Zare, Azzar, Mardani, and Arein, 2015). The concept of transformation has increasingly allured concentration from many scholars because they want to contribute to societal change which allows us to move more quickly towards more sustainable lifestyles (O'Brien and Sygna, 2013; Pelling, 2011). Nalau and Handmer (2015) show that the concept of transformation is regularly used and diversely applied to many fields such as education, firm change, genetics, leadership, mathematics, and theatre. In addition, although it is often used in a narrow sense for a variety of terms and social theories (Feola, 2014), it can set out a fundamental shift regarding values and practices (Nalau and Handmer, 2015). To conclude, transformation can be known as an essential change that questions and challenges the values and the usual practices prior to attitudes expressed to rationalize decisions and routes (Nalau and Handmer, 2015).

Great transformation can be read as an attempt to strengthen existing political, economic and cultural institutions as well as positive examples and possibilities (Schneidewind, 2013). In facts, the strength of the transformation emphasizes the incremental changes. The essential and empirically observable incremental changes need to be connected to the structural (including institutional) political, economic and cultural conditions and involved power relationship in the condition of which they take place (Brand, 2016). In the consideration of business, the business transformation formula is to transform the companies' processes to support the competitive business structure to be effective and efficient. Therefore, business transformation affects all business processes stated above, as it operates, manages or supports. In addition, it is about instilling: (1) Efficient and effective processes through people, firm, systems and infrastructure; and (2) Transformational capacity that permits the firm to constantly learn, change and reproduce itself with minimum fuss and pain (Bititci, 2007).

Therefore, growth and survival of future firms depend on their ability in implementing successful changes which itself is a kind of ultimate goal in improving

and transformation of the firm (Lewis, 2000). Nowadays, successful firms in the world are the ones which allow change and transformation within their institutional framework. It is clear that the foundation of each firm is based on meeting its needs and since the permanent need of humans is changing or going toward a new requirement, the need for transformation in firms has been felt (French and Bell, 2006). The process of change is a phenomenon that arises in the nature of firms whether they are large or small, profit or non-profit, and industrial or academic. Considering the political, social, and economic climate, the change is certain to happen and has become a more common and important event for firms and beneficiaries (Zare et al., 2015). Daszko, Macur, and Sheinberg (2005) found that the transformation takes place when people with managerial skills concentrate more on shaping their new future into which has never been in existence, and take more distinctive actions based on continual learning and a more innovative general attitudes than they would have taken during the past. Therefore, the solid foundation of transformation work is imperative for the health of people and firms and greeting a new style of management (Daszko et al., 2015).

Transformational management is more than a skill development and a new strategy which are changes. It comprises the agility, to continually and quickly assess and redirect as needed, benefiting from the former lessons, but not imprisoned by their former methods. The transformational management runs deeper than new leadership skills, new data and a new strategy, and it also enhances ways of viewing challenges, alternatives and opportunities. Furthermore, the transformational management is regarded as a commitment to genuine leadership, ambivalent awareness, and sorting through that for the insight into the gold nuggets. In addition, the transformational management is still enough for that innovation is allowed (Britcher, 2002), so its style is the most important part of making and sustaining competitive advantages for the managers. This is because one of the characteristics of the transformational leadership is to have outstanding and extraordinary influences on their followers and eventually on their social systems (Satpathy, 2008). Satpathy (2008) found that the transformational management is able to happen only when the manager is above personal interests and leads his team towards the goal that benefits both the people and the firm. This is consistent with Nalau and Handmer (2015) who found transformational management commonly involves proactive adaptations to the vision of the company and the

consequent management of such activities. Thus, transformational management is a mean to strongly enhance leadership the administration leading to a transformation of the firm in directions, processes or other noteworthy components of operations (Small business, n.d.). Transformational leaders must both commit the transforms bound to happen in the firm and keep up employee morale which is often challenging during ongoing changes. Similarly, transformational leaders generally seek to make changes which are a part of a strategic skillful movement against a reactive move of desperation before they become vital.

Hechanova and Cementina-Olpoc (2013) found that a significant component of firm transformation is the process managing the change. The process of transformation is consisted of learning, analyzing, finding solutions in various time, and creating the aimed solutions. As the employees try out their ideas in order to seek for the effective ones, a process of selection and final retention of particular solutions allows the company to manage to reach a higher level of effectiveness. The transformation is composed of four types which include reengineering, restructuring, renewing and regeneration (Muzyka, De Koning, and Churchill, 1995). The first two types of transformation, reengineering and restructuring, purport to a more simultaneous, tangible effect on systems and structure in the firms. The third, renewing, generally attains to a rising of behavior of entrepreneurs (Ghoshal and Bartlett, 1994). Regeneration is the final type of transformation which mainly associates with first three elements. It is aimed at instilling transformational process within an ongoing adaptive firm. The gist of transformation according to the four types stated above emphasizes much rather a future long-term aim at sustainable firm than only making a move of a company from its present state towards a desired future state. Caldwell, Herold, and Fedor (2004) suggest that when the change is implemented and known to be handled fairly, people's reactions to the implementation of the change and the company are more desirable. The awareness of change appears to be a practical function of leaders' capability to continuously implement methods, supply employees with precise information, actively engage the employees in the change, demonstrate responsibility to the change, and provide plenty of resources needed to make the change successful.

Stockport (2000) stated that strategic transformation is the ability of a company to adapt itself in order to guarantee long-term continuation, and that transformation is

attached to a fundamental change in the firms' markets and customers and the products and services offered by the firms. Stockport also added that the transformation process indicates an important change in internal or organizational focus such as structure, systems, staffing, and culture. In addition, strategic transformation is a firm experiencing opportunities or risks which are resulting in big changes of the environment itself or its supportive abilities such as organizational learning and dynamic capabilities. The firm gives up original logic range thoroughly and reformulates its strategies basically in order to look for survival, sustainable or outstanding development (Feng, Wang, and Wang, 2006). Frahm (2007) showed, in a review of the literature on strategic change, that the theme which is considered particular to all the literature is transformed to be strategic or in the mean of recognizing that the change of firm is to raise awareness in decision to accomplish or improve an advantage of competition. Griener, Cummings, and Bhambri (2003) gave a definition to the success of strategic transformation as tripartite consisting of a combination of (1) large-scale internal change in the firm, (2) a substantial external change in market position of the firm, and (3) great development of financial performance in terms of a firm's policies and operations in monetary. Bloodgood and Morrow (2003) argued that it can be best considered strategic organizational transformation as a multidimensional event constitutes different levels of environmental structure and internally consciousness raising. Moreover, the strategic transformation can only happen to complementary alterations in both the design of firm and the relationship between the firm itself and outside stakeholders (Davis, Kee, and Newcomer, 2010).

One of the employed important strategic management frameworks comprise of resource dependency theory, which proposes that the firm covers a group of crucial dependencies on its circumstance that must be successful if staying in business line (Pfeffer and Salancik, 2003). Moreover, strategic transformation process model is generated to provide a range of guiding the leaders of institutions and firms toward making firms flexible, innovative and dynamic with a favorably improved capacity for the change. Furthermore, the model puts a focus on provision of guidelines for the efficient process establishment for developing strategies and simultaneously contributing to the targeted transformational change (Davis, Kee, and Newcomer, 2010). Stockport (2000) found that strategic transformation is regarded as the

transformation ability of a firm to guarantee its long-term survival. Besides, the strategic transformation indicates an importance of internal change which covers structure, systems, staffing and also culture. Strategic transformation is compared to an art because like people, firms can become even better at doing things by mean of constant practice as time passes. Firms must also have sufficient courage to make a change. Even though the present is extremely considerable, the future is definitely just around the corner.

The complementary level of the performance of firm to a large extent relies on strategic implementation influence affected by its power which is an essential factor. Strategic change is also one of the most vigorous areas in many research fields such as management and corporate turnaround strategies (Vithessonthi and Thoumrungroje, 2011). The strategic change has been undoubtedly recognized as one of the most important sources of a performance of development of firms (Hofer, 1980; Hofer and Schendel, 1978; Kraatz and Zajac, 2001). The influence of strategic implementation is an integrative ability that every type of resources and mechanisms is applied by firms in order to achieve invented strategic target in its process, whose vital effective factors are regarded as strategic recognition, strategic synergy, and strategic control (Xue, Qi, and Wei, 2005). Another important view on the strategic change has focused on how strategic change makes the continuation or heightens firm’s performance (Vithessonthi and Thoumrungroje, 2011). Therefore firms' strategies can improve firm performance (Alexander, 1991).

Consequently, Kodama and Shibata (2014) defined capability by referring to business processes as incorporating and recreating the company assets which are both internal and external, with the purpose of excellence of competitiveness. Furthermore, Garcés-Galdeano, García-Olaverri, and Huerta (2016) found that management capability is the firm resource by which the owners and management team set goals, define strategy, mark out programmes and plans of action needed to achieve objectives, and monitor the implementation and final outcome of these processes. However, Sirmon, Hitt, and Ireland (2007) found that management capability, geared at achieving a good fit between strategy, firm, and environment, is the key to guarantee firm success. We based our conceptualization of management capability on the dynamic effectiveness viewed as an extension of resource-based view (Adner and Helfat, 2003; Teece, 2007).

The dynamic capabilities to productively transform to the better change of market states and create values are required as a firm (Lahiri, Kedia, and Mukherjee, 2012). For this reason, these capabilities help firms make and transform existing operating routines, and entrepreneurial opportunities of sensing and seizing that maximizes firm's effectiveness and competitive benefit (Lahiri, Kedia, and Mukherjee, 2012). Kor and Mesko (2013) noted that firm's management capabilities plays a key role in achieving congruence between its current skills and the target changing conditions of its circumstances. Adner and Helfat (2003) found that capabilities incorporate more surpassing technical, human, and conceptual abilities into constructing, integrating, and reconfiguring the firm's resources and capabilities. Moreover, management capabilities should enable providers to better financial management and influential various firm-level resources and capabilities through formation of valuable cooperation causing enhancement of the firm's performance (Sirmon and Hitt, 2009). Besides, Kor and Mesko (2013) stated that management capabilities bring about establish a powerful logic in the firm taking the solid form in regularity, methods, and abilities that affect implementation of strategies and are in search of new options for the rise and innovation.

While empirical research currently performed specialties in different aspects of management capabilities named cognitive capabilities and capabilities for human managerial and social capital separation (Adner and Helfat, 2003; Díaz-García, González-Moreno, and Sáez-Martínez, 2013; Sirmon and Hitt, 2009). Therefore, Helfat and Martin (2015) suggested that the study on management capabilities can be promoted through consolidated literature on the top management teams as these teams could undergo their firms' growth, modification, and strategic transform.

From literature review, Stockport (2000) had researched about proactive operational planning competency, flexible organization structure focus and modern management innovation capability dimensions from The Developing Skills in Strategic Transformation. Then, Techakanjanakit and Huang (2002) had also researched about dynamic business strategy application from The Strategic Transformation of Automobile Industry in China. Moreover, Pearce and Robbins (2008) had also researched about managerial technological implementation orientation from The Strategic Transformation as the Essential Last Step in the Process of Business Turnaround. Therefore, the researcher integrated those all dimensions to create the new

one and got new five dimensions of the strategic transformational management capability.

According to the discussion above, this research defines strategic transformational management capability as the ability to change working method to achieve a goal by creating skills, concepts and new working behavior, and this ability applies technologies which have modern innovation of management in the concept of flexible firm to make it apparel to changed environment.

Based on a review of relevant literature and theories, this research argues that, strategic transformational management capability includes proactive operational planning competency, flexible organization structure focus, modern management innovation capability, dynamic business strategy application and managerial technological implementation orientation. The model also introduces antecedents, consequence and moderators which focus on the link among strategic transformational management capability at the firm level. The following Table 1 summarizes the definition of strategic transformational management capability, and Table 2 recapitulates key literature reviews on strategic transformational management capability, which are presented as below:

Table 1: The Definition Stream of Strategic Transformational Management Capability

Author(s)	Definition
Ackerman-Anderson and Anderson (2001); Bridges (2003)	Transformational change and leadership engagement are a driving force behind innovation, but leadership involves the beginning, planning and communication procedure which approve a modification of policies, methods, resources and technologies.
Gouillart and Kelly (2005)	The orchestrated redesign of the genetic architecture of the corporation is managed to be successful because of simultaneous working despite at different speeds along the four dimensions of reframing, restructuring, revitalization and renewal.

Table 1: The Definition Stream of Strategic Transformational Management Capability (continued)

Author(s)	Definition
Daszko, Macur, and Sheinberg (2005)	Transformation as a "change" in the outlook, the creation of and the transformation of an entire new form, function and structure. To transform is to create a new thing that has never existed and could not be predicted from the past, in terms of improvement.
Kilgallon and Lampe (2007)	As transformations are becoming a more significant part of leadership activities, leadership in multinationals are increasingly and likely to have to be able to cope well with creating, planning and carrying out business transformational programs.
Akejni (2009)	Transformation means change in shape, appearance or structure, metamorphosis but all changes cannot be transformation.
O'Brien (2012)	The different things to different people or groups, and they are not always clear what exactly needs to be transformed and why, whose interest these transformations serve, and what will be the outcomes.
Brand (2016)	In term of transformation using, strategic concepts that used transformation it can provide ways of dealing with problems and crises that are assumed to be effective and socially desirable.

Table 2: Summary of Key Literature Reviews on Strategic Transformational Management Capability

Author (S)	Type of Research	Key Issue Examine	Main Finding
Muzyka, De Koning, and Churchill (1995)	Qualitative	On transformation and adaptation: Building the entrepreneurial corporation.	There are four types of transformation: reengineering, restructuring, renewing and regeneration.
Stockport (2000)	Qualitative	Developing skills in strategic transformation.	This article shows that in order to ensure their longer term survival, firms must improve skills in strategic transformation.
Bloodgood and Morrow (2003)	Qualitative	Strategic organizational change: exploring the roles of environmental structure, internal conscious awareness and knowledge.	Combining this conceptualization of change with a model of firm knowledge transfer developed by Nonaka and Takeuchi (1995), we gain a better understanding of the types of change strategies that firms will seek, the processes they should use to implement these strategies and the likely performance outcomes from these strategies.

Table 2: Summary of Key Literature Reviews on Strategic Transformational Management Capability (continued)

Author (S)	Type of Research	Key Issue Examine	Main Finding
Pfeffer and Salancik (2003)	Qualitative	Information technology and organizational structure.	Major strategic management frameworks used includes resource dependency theory, which posits that the firm has a set of key dependencies on its environment that must be successfully conducted if the firm is to stay in business.
Daszko, Macur, and Sheinberg (2005)	Qualitative	Transformation: a definition, theory and the challenges to transforming.	The word transformation has become a popular term in firms in the twenty-first century. Hundreds of firms hear the mandate for transformation.

Table 2: Summary of Key Literature Reviews on Strategic Transformational Management Capability (continued)

Author (S)	Type of Research	Key Issue Examine	Main Finding
Bititci (2007)	Qualitative	An executive's guide to business transformation.	This article provides the executive with a practical high-level roadmap to business transformation and then the eight components of the business transformation formula are outlined.
Davis, Kee, and Newcomer (2010)	Qualitative	Strategic transformation process: Toward purpose, people, process and power.	This article shows firm-level, integrative framework for the strategic transformation of public and non-profit firms to assist leaders who are committed to effective stewardship of their firms.
Vithessonthi and Thoumrungroje (2011)	Qualitative	Strategic change and firm performance: the moderating effect of organizational learning.	Extremely frequent and infrequent strategic changes are deemed to be detrimental to firm performance. However, the research reveals that the strategic change-performance relationship may alter due to the moderation of organizational learning.

Table 2: Summary of Key Literature Reviews on Strategic Transformational Management Capability (continued)

Author (S)	**Type of Research**	**Key Issue Examine**	**Main Finding**
O'Brien and Sygna (2013)	Qualitative	Responding to climate change: the three spheres of transformation.	This paper reviewed some of the literature on transformation and presented a framework for understanding how, where, and why transformations to sustainability take place.
Nalau and Handmer (2015)	Qualitative	When is transformation a viable policy alternative?	The findings reveal that one option in generating such understanding would be to establish long-term robust monitoring and evaluation practices, which can track the outcomes produced by changes in policy and practice over time**.**

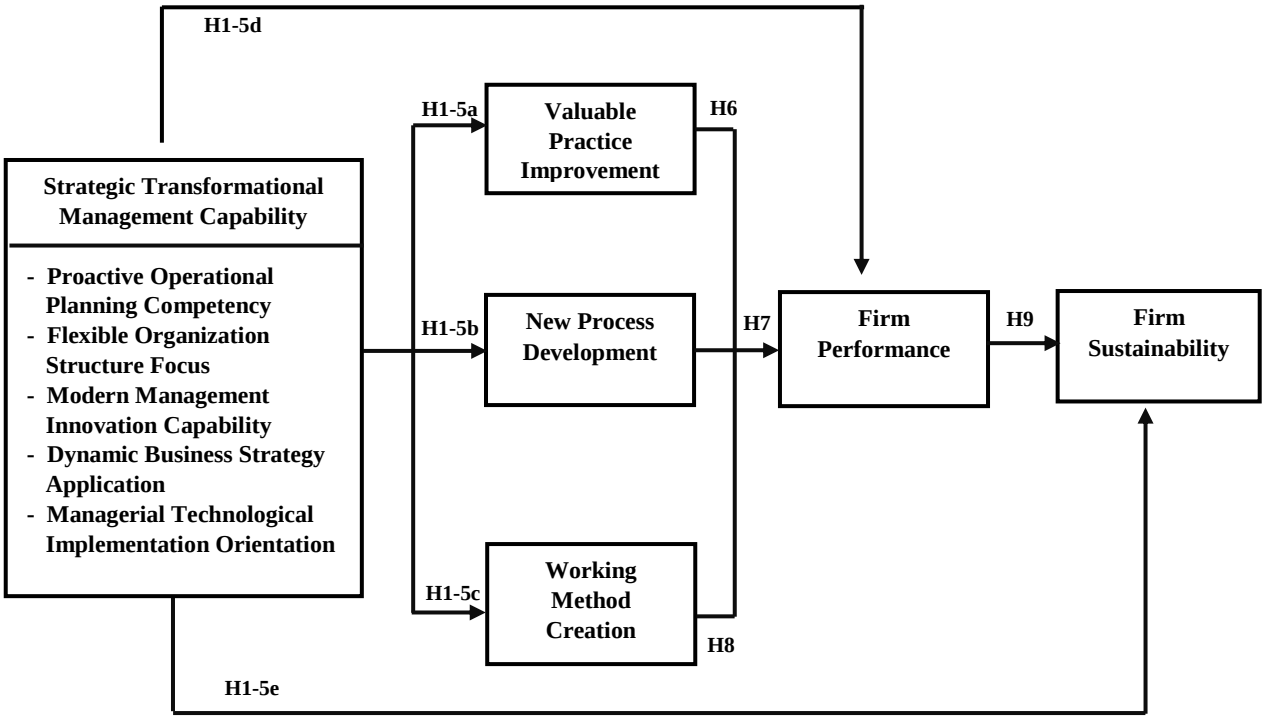
Table 2: Summary of Key Literature Reviews on Strategic Transformational Management Capability (continued)

Author (S)	Type of Research	Key Issue Examine	Main Finding
Brand (2016)	Qualitative	Transformation" as a New Critical Orthodoxy. The Strategic Use of the Term "Transformation" Does Not Prevent Multiple Crises.	Transformation is an umbrella term which places the ecological crisis in a broader context. To foster societal change, opinion leaders of the transformation debate are focusing on learning and trust in incremental change.
Garcés-Galdeano, García-Olaverri, and Huerta (2016)	Quantitative	Management capability and performance in Spanish family firms.	This paper proposes a way to measure managerial capability. Innovative human resource policies are much more frequently found in companies with high degrees of management capability.

The Relationships Among Strategic Transformational Management Capability and Its Consequences

This section shows the investigation of the relationships among strategic transformational management capability, which consists of five purposed dimensions: proactive operational planning competency, flexible organization structure focus, modern management innovation capability, dynamic business strategy application, and managerial technological implementation orientation; and five critical consequences which are valuable practice improvement, new process development, working method creation, firm performance and firm sustainability. These relationships are presented as below:

Figure 2: The Relationships among Strategic Transformational Management Capability, Valuable Practice Improvement, New Process Development, Working Method Creation, Firm Performance and Firm Sustainability



Proactive Operational Planning Competency

Planning is one of the management operations and one of the most crucial everyday manager's tasks (Sutevski, 2014) and firms spend much time and attempt on creating plans and on monitoring their realization. For this reason, planning is defined as the method of managing and implementing specific phases to set the way of activities of a firm (Mateljak and Mihanović, 2016). Scholars commonly agree that planning happens at three operational levels which include a strategic or long-term level, a tactical or medium-term level, and an operational or short-term level (Lapide, 2011; Parente, 1998). The long-term planning covers the time horizon ranging from one to the following years. The medium-term planning covers the range of a few months up to a year, and the short-term planning covers the range with the limit of three months (Grossmann, van den Heever, and Harjunkoski, 2001). Second, the operational level related to matters that are most immediate to the firm in which change has high frequency and is managed as needed (Lapide, 2011). Third, tactical planning has a more intermediate time horizon needing medium levels of change. Moreover, strategic planning has the longest time horizon, and it needs less frequent change, and is often performed ad-hoc (Lapide, 2011).

In combination, by preparing plans and adopting appropriate operational, operational planning means the tasks that are assigned to units at each of facilities, considering resources and time constraints (Maravelias and Sung, 2009). Therefore, Mullane (2015) is defined operational plan as a plan which is prepared by a department of a firm that will take to support the strategic objectives and plans of upper management. Golec (2015) found that operational plans which include a short-term planning horizon put a focus on attributes with the mean of achieving strategic goals. The operational plans involve plans which are vital for purchases, manufactures, sales, and financial activities. On the other hand, operations' planning is a multi-task and in partial responsibility of the manager which relate to plan and create activities which bring products, processes of manufacture, technology selection, working methods, and control systems in attention (Hurtubise, Olivier, and Gharbi, 2004). In addition, operational plan is an important tool for firm management, and provides information in detail to the manager on the work to make sure that the planned goals and objectives can be succeeded. Besides, firm which use operational planning can obtain efficient and

sustainable working method (Mateljak and Mihanovic, 2016). Thus, operational planning is able to assist a company in completing vertical and horizon in accordance with operational decisions. Moreover, it also develops firm practice and performance (Bronzo, Oliveira, and McCormack, 2012).

However, in order to fully understand the operational plans, leaders should first consider the entire planning processes within a business. Mullane (2015) stated that firstly, the upper management covered the preparation of both a strategic and a tactical plans, but the lower management should be with a clearer sense of its attempt. Consequently, the leaders have to come up with an ingenious detailed plan so that they can make it happen. Secondly, the operational plan is only limited to one part of the firm. Therefore, operations at the tactical and micro levels of a production firm are divided into three interconnected activities which are resources, processes, and knowledge of controlling production. As a result, these interrelated activities are operated by a labor through a process, a machine, a product or a material, by a customer, and by a supplier. The effect of production capability and the levels of cost, quality, flexibility, and speed or time are considered as the competitive priorities (Golec, 2015).

Proactive behavior at work relates self-initiating transform, or making things happen, in order to succeed a different future (Parker, Bindl, and Strauss, 2010), and proactive behavior has been linked to superior performance, particularly because in uncertain and interdependent contexts, being proactive is helpful for generating creative ideas (Binnewies, Ohly, and Sonnentag, 2007) that facilitate dealing with changing environments (Griffin, Neal, and Parker, 2007). Moreover, a firm with proactive activity is oriented to opportunity-seeking, has perspective foresight, and is a first-moving initiative. Being proactive is not only reacting to change when it happens, but also in taking action by causing change toward a state (Dencker, Stahre, Martensson, Fasth, and Akillioglu, 2009). Thus, firms with stronger proactiveness are likely to gain success. In addition, competence is an ability to sustain and to coordinate the deployment of resources in ways that promise to help the firm achieve its goal (Sanchez, 1995). Competence has been characterized by adaptation, distinctiveness, organizational learning, long-term growth and survival (Wu and Cavusgil, 2006).

Operational plans provide those within the firm with a clear picture of their tasks and responsibilities over a specified time period, and help to achieve the strategic goals of the firm in a consistent and coherent manner. Therefore, such proactivity has been accepted as a positive way of behaving that can lead to the improved performance and effectiveness of individuals and firms, especially when employees perform in contexts of unpredictable and changing demands (Wu and Parker, 2013). Besides, making a connection between the process enhancement and the strategic plan can also provide a crucial direction and a challenge so that it is able to maintain the improvement exertion (Spackman, 2009; Brunet and New, 2003). In this research, proactive operational planning competency refers to having the ability to research and analyze competitive situation in the present and the future in order to set policy and working direction for more efficiency performance (Golec, 2015). Therefore, the hypotheses are posited as follows:

Hypothesis 1: The higher the proactive operational planning competency is, the more likely that firm will gain greater (a) valuable practice improvement, (b) new process development, (c) working method creation, (d) firm performance, and (e) firm sustainability.

Flexible Organization Structure Focus

Businesses nowadays are experiencing several pressure such as pressure on competition in a fast-paced ever-changing condition and pressure on constant reduction of costs to remain competitive. Staying flexible is becoming more imperative for survival. Therefore, the topic of flexibility has comprehensively in various disciplines such as in production management, economics, strategic management, and IT management (Dreyer and Gronhaug, 2004). Flexible companies have the ability to give a rapid response to any changes in their markets, and they are also able to play a successful role in shaping up these changes (Sharma and Gupta, 2004). Flexibility is an important factor in business success and can be considered as one of the most important notions of the contemporary workplaces (Bird, 2015). In addition, firms put a lot of effort to become more flexible and adaptable under the ongoing-changing economic situations (Volberda, 1996; Way et al., 2015) while at the same time employees are also

expected to be more flexible to the way they access to their jobs and careers (Hill et al., 2008). One of the potential avenues for governments, firms, and employees to address these issues is through the concept of flexibility (Putnam, Myers, and Gailliard, 2014; Siegenthaler and Brenner, 2001). The concept has been argued that flexibility could provide a useful tool for both firms and employees to improve motivation, fulfillment and performance (Bal, De Jong, Jansen, and Bakker, 2012).

Moreover, organizational structure is defined as the repetitive set of relationships between the members of the organization (Donaldson, 1996) and the organizational structure regarded as one of the most pervasive perspectives of organizations (Clegg and Hardy, 1996). Organizational structure commonly expresses that the way of responsibility and power have already been allocated while the methods of work are conducted among organizational members (Nahm, Vonderembse, and Koufteros, 2003). Similarly, Hao, Kasper, and Muehlbacher (2012) categorize the organizational structure into two main types including first, organizational structure underlining the nature of classes of hierarchy, unification of authority, and integration of horizon, and second, organizational structure which is a multidimensional construction related to (1) work division especially roles or responsibility including specialization, differentiation or departmentalization, centralization or decentralization and complexity and (2) communication or mechanisms of coordination including standardization, formalization and flexibility. In order to complete internal coordination which is vital to realize value from an outsourcing competency, firms select their organizational structure themselves (Plugge, Bouwman, and Molina-Castillo, 2013). To notice an improvement of the competitive ability, firms are turning towards putting improvements into their operational and processing methods. While operational improvement plans are often identified with relative ease, the capability of firms to simultaneously manage themselves are restricted by the resource constraints (Kirkham, Garza-Reyes, Kumar, and Antony, 2014). Therefore, the key feature of new organizational structures can be combined with the flexibility and the competence to adapt to the changing circumstances (Sakalas and Venskus, 2007), to create new working method which is more flexible (Gold, Malhotra, and Segars, 2001).

Flexible organization is oriented on the future and strategic vision of the administrative team is demonstrated by human resources behavior, which definitely

shows the identical involvement in the most recent organizational issues (Ionescu, Cornescu, and Druica, 2012). To sustain economical and social efficiency area, flexible, fundamental and adopted proactive business strategies, with initiative processes and periodical implementations of satisfactory organizational change, are the key factors to be emphasized by the firms (Ionescu et al., 2012). Therefore, organizational flexibility or the ability to speedily adjust to new or dynamic environments, has attracted increasing attention from people whether researchers or managers who are regarded as an important driver for companies to grow on unstable and unpredictable environments (Sopelana, Kunc, and Hernaez, 2014). In addition, the organizational flexibility is becoming the new feature of organizational excellence (Volberda et al., 2007). Flexibility is essential in strategic planning because it is valuable process which leads to practical improvement in firm (Ionescu et al., 2012). Moreover, Nadkarni and Naraynan (2007) stated that flexibility of firm, especially the strategic matter, directly manages operation of the firm under an absolute condition for its long-term performance. In particular, Celuch, Murphy, and Callaway (2007) found that proactive flexibility emphasizes the firm in terms of the ability to predict transform of future circumstance, while reactive flexibility specifies an ability to instantly and effectively react to transform of current environment at the time they become tangible. In addition, modern firm is flexible in management and can adapt to different situation.

Each flexible organizational structure comprises of a set of practices and actions inside a company that aims to improve the interactive collaboration between the employees and the informative distribution (Tyulkova, 2014). In this research, flexible organization structure focus refers to the ability to integrate and combine working together by operation horizon and it can provide successful management (Sopelana et al., 2014). Hence, the hypotheses are posited as follows:

Hypothesis 2: The higher the flexible organization structure focus is, the more likely that firm will gain greater (a) valuable practice improvement, (b) new process development, (c) working method creation, (d) firm performance, and (e) firm sustainability.

Modern Management Innovation Capability

Managing creativity and capabilities, similar to innovation capability, is one of the fundamental elements of an innovative firm (Saunila and Ukko, 2012). Innovation capability stands for the ability to consistently transform existing knowledge and ideas into new products, processes and systems with the purpose of the advantage of the firm and its stakeholders (Lawson and Samson, 2001). Likewise, Saunila and Ukko (2012) defines innovation capability as the elements that have a great influence on a firm's ability to administrate innovation. In addition, management of innovation is referred to as the creation or adoption of the new or innovative processes, structures, techniques and practices of management that affect performance regarding innovation, productivity and competitiveness (Birkinshaw, Hamel, and Mol, 2008; Volberda, Van Den Bosch, and Heij, 2013). Moreover, Walker, Damanpour, and Devece (2011) found that management innovation can play a main role in the process of changing firms, facilitating firm adaptation to the external environment and increasing the efficiency and effectiveness of internal processes, and explained an important part of an innovative performance of a company (Volberda et al., 2013). Accordingly, management innovation can make sustainable competitive advantages that lead to economic achievement (D'Amato and Roome, 2009; Hamel, 2006; Wu, 2010).

Authentic management innovation has to relate major changes in how the firm is conducted and reflects the establishment of new practices, processes, structures and techniques and improvement in both firm performance and practice (Volberda and Van den Bosch, 2005; Volberda, Van den Bosch, and Jansen, 2006; Volberda et al., 2013). According to Birkinshaw et al. (2008), management innovation, as other innovation processes, intimately involves the specifically new managerial concepts and practices which are in sight of a process of exploration and introduced through different forms of the change of firms. However, management innovation reflects upon changes in the way that work related to management is completely done. This involves a departure from traditional processes. For instance, what managers do is a part of their jobs. In practices, the routines that change normal ideas into applicable tools. In structure, for instance, the way responsibility is allocated. In addition, in techniques, the procedures used in order to achieve a specific task or goal (Birkinshaw et al., 2008; Hamel, 2006; 2007).

On the other hand, innovation in management is viewed as an essential aspect of strategic and sustainable business because it provides a competitive advantage in employing and exploring innovative ways of running business and brings about new working method (Qin, Li, and Yu, 2015). Management innovation involves a comprehensive and complicated kind of change in the way that management effort is conducted. The change turns into a part of the firm as a management innovation expressing itself via new management practices, processes, or structures. In addition, it is not necessary that the management innovation may be improved because of the management of the chief executive officers or other managers in the top management team. Nevertheless, Vaccaro, Jansen, Van Den Bosch, and Volberda (2012) found that their roles may be highly productive in making a business context contribute to trial with firstly contributing perspective of new processes, practices, or structures to use. Management innovation is mainly associated with the effectiveness and efficiency of processes inside the firms (Walker et al., 2011), and includes a positive relationship among developing dynamic capabilities (Gebauer, 2011), growing productivity (Mol and Birkinshaw, 2009), and performing in the firm (Walker et al., 2011). In this perspective, a state-of-the-art management is developed to find solutions to several problems in scientific management aspect, expressing methodical use of human resources as mechanical purpose (Subedi, 2004). Waddell, Jones, and George (2013) stated that the modern management system formed a rationalization of the behavioral problem that the scientific management encountered by addresssing flexibility, informality of the relationship between workers and manager, high cooperation and engagement, employee reflection and creativity. Furthermore, modern firm is flexible in management and can adapt to different situation.

The concept of modern management innovation capability in this research refers to an ability to support employee to create and improve their working techniques continuously using implementation technique and new arrangement in firm (Birkinshaw et al., 2008; Volberda et al., 2013). Accordingly, the hypotheses are posited as follows:

Hypothesis 3: The higher the modern management innovation capability is, the more likely that firm will gain greater (a) valuable practice improvement, (b) new process development, (c) working method creation, (d) firm performance, and (e) firm sustainability.

Dynamic Business Strategy Application

The literature of strategic management has underlined that achieving an advantage in competitiveness in the present dynamic and intensely competitive environment depends on establishing and fulfilling a consistent business or competitive strategy (Porter, 1980; 1985). The concept of business strategy is still not clearly defined and left people confused about its exact constitution (Mintzberg, Ahlstrand, and Lampel, 2009). However, the confusions of its definition are understandable because strategies in general vary widely in the range of their field, specifically long-term, mid-term and short-term orientations, objectives, and purposes. Akman, Ozcan, and Hatipoglu (2013) stated strategy is regarded as a set of business plans which are applied consistently to succeed the targeted performance. Therefore, Chungyalpa and Bora (2015) defined strategies in a superior way. For example, the strategic level encompasses the business vision and mission and long term goals. In addition to a higher level definition, strategies can also be defined at a more particulate level where performance targets, plans, and schedules for operation are somewhat specified. Business strategy is outlined to complete company's objective based on internal and external assessment (Soltanizadeh, Rasid, Golshan, and Ismail, 2016). Business strategy is the way in which companies attain competitive advantage (Shavarini, Salimian, Nazemi, and Alborzi, 2011). This result is consistent with Porter (1980) and Miller and Friesen (1986) who found that in the business strategy aspect, a competitive advantage of a firm exists in its ability to enhance or receive firm resources and capabilities, take a strategic lie in a market and implement a competitive strategy taking the opportunities and threats in the external circumstance into account. For this reason, business strategies are involved with how firms improve their competitive capabilities to maintain their existence and how firms can be successful (Akman, Ozcan, and Hatipoglu, 2013).

The two remarkable frameworks of business strategy are the Miles and Snow's typology and the Porter's typology (Hambrick, 2003). There are four strategic types of Miles and Snow's classical strategy typological which are prospector, analyzer, defender, and reactor (Miles and Snow, 1978). Also Miles and Snow's typology is focused because it explains all firms as an integrated interrelationship among strategy, structure and process (Weisenfeld-Schenk, 1994). On the other hand, Porter typology

gives to more strategic types in his generic strategies which include leadership and differentiation (Porter, 1980).

Miles and Snow (1984) suggested that behavioral patterns of the competition of firms and industries can be categorized into three basic competitive strategy types, including Defenders, Prospectors and Analyzers while Reactors do not have a related reaction to entrepreneurial problems. According to the three types of strategy, 1) Defenders put an effort on finding and carrying on a safe, suitable activity in a rather stable product or service area, while 2) Prospectors normally perform in a broad product-market area which redefines itself throughout the year. 3) Analyzers, as do defenders, attempt to carry on a stable, limited way of products or services, but move faster to catch up with a carefully chosen set of more assuring innovations in the industry (Pollard and Morales, 2015).

The second research stream embodies, Porter (1985) established a framework outlining the way in which a business strategy might be selected by firms in order to achieve effectively and focuses mainly on customers and competitors. Firms have to choose between competing as the lowest-cost producer in its industry such as a cost leadership strategy and competing by providing distinctive products which center upon quality, physical characteristics, or product-related services such as a product differentiation strategy (Porter, 1985). However, product differentiation firms have a tendency to invest weightily in research and advancement activity in order to generate new products or processes and they can improve better management (Chen, 2009).

The strategy formulation of each firm varied according to the circumstances, with knowledge and assets being different in each firm. This is the ability of a firm that is unique, hard-to-imitate affect the competitive advantage (Luo, Zhou, and Liu, 2005), which strategic ability is the trying in the combine appropriate ability of internal firm, to achieve the target of the firm and establish a competitive advantage (Prungkiat, Pratoom, and Raksong, 2016). A strategy is implementation of a firm to particular products, markets, customers, competitive approaches, and business operation method creation which leads to enhance practice and performance (Chungyalpa and Bora, 2015). Besides, business strategy must by dynamic and it can be transformed in order to fit the external environment which changes all the time.

Thus, dynamic business strategy application, in this research, is defined as ability to set working procedure and direction by integrating operational tactics systematically to improve performance to be more effective (Teece, 2010; Mile and Snow, 1978). Therefore, the hypotheses are proposed as below:

Hypothesis 4: The higher the dynamic business strategy application is, the more likely that firm will gain greater (a) valuable practice improvement, (b) new process development, (c) working method creation, (d) firm performance, and (e) firm sustainability.

Managerial Technological Implementation Orientation

Teece, Pisano, and Shuen (1997) indicates that technological capability is the ability to carry out any vital technical function or volume activity inside the firm including the competence to initiate new products and processes and to operate facilities efficiently. Therefore, technological capability is becoming extremely indispensable because the response to dynamic market needs requires the improvement of new products that are increasingly brought into close contact in new technologies (Hsieh & Tsai, 2007). In addition, technology continues to be incentive of transform in business and in fact in society at large. However, the introduction to new technologies in the office continues to be challenging for managers and changes practitioners as well. The need to effectively deal with such changes is not likely to appear to be decreased at any time in the future (Becker, 2010).

Technology implementation is used in firm to make practicing more flexible and efficient. In addition, technology can be applied various management, and it can adapt working and improve quality of working (Henderson and Ruikar, 2010). The range which successful technology implementation can be completed ultimately relies on the level to which changes are planned, managed, and evaluated.

Fleck (1994) views implementation effectiveness in a more simplistic ways that generic technology knowledge and local practical knowledge is needed as a result of successful implementation (Miller, Radcliffe, and Isokangas, 2009). The implementation process that firms go through appears to be both well-structured and managed effectively (Henderson and Ruikar, 2010). Moreover, Thomke (1998) argues

that to ensure that technological implementation works well, experimentation, using trial and error to look for a solution, is needed. Companies that experiment on new technologies are in a better position in having a higher rank of innovation than ones that invest all their efforts in employing the existing, familiar technologies. In other words, technological innovation can be implemented and affect creating better working method and performance (Beerkens, 2004).

In reference to an aspect of production strategy, technology is often visualized as a source of major strategic ability to improve the reliability and attractiveness of products and to reduce manufacturing costs (Garrido-Vega, Ortega Jimenez, De los Ríos, and Morita, 2015). A way to receive an advantage from production strategy in technology-intensive manufacturing industries is to make use of emerging product and process technologies to improve and introduce pleasant new products (Singh and Khanduja, 2010). Moreover, when a firm brings external technology integration to use in the firm, technology played a crucial role in many operational activities, together with new product development, new process development, and operational improvement (Stock and Tatikonda, 2004).

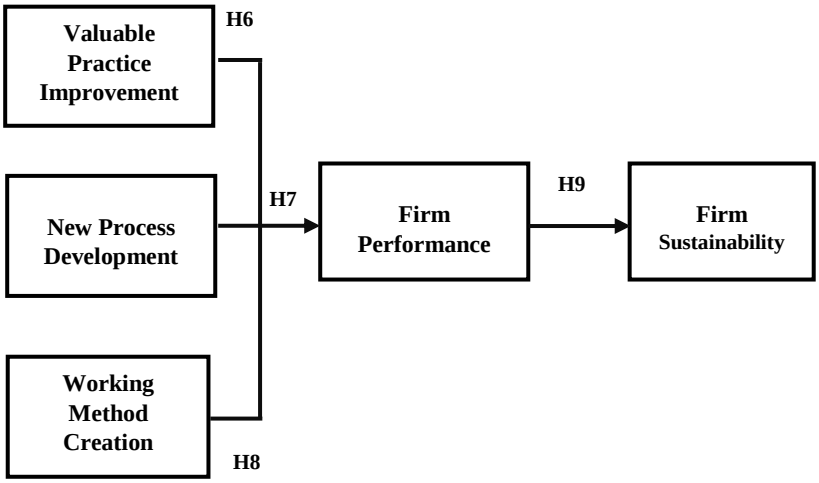
Therefore, in this research, the managerial technological implementation orientation refers to emphasizing the importance of budget allocation for technology investment by supporting learning in technology and it can provide effective schema development (Miller and Radcliffe, 2009). Therefore, the hypotheses are proposed as below:

Hypothesis 5: The higher the managerial technological implementation orientation is, the more likely that firm will gain greater (a) valuable practice improvement, (b) new process development, (c) working method creation, (d) firm performance, and (e) firm sustainability.

The Relationships Among the Consequences of Strategic Transformational Management Capability

The second part attempts to examine the effect of consequences of strategic transformational management capability (valuable practice improvement, new process development, working method creation and firm performance) on firm sustainability as presented in Figure 3 below:

Figure 3: The Relationships among Valuable Practice Improvement, New Process Development, Working Method Creation, Firm Performance, and Firm Sustainability



Valuable Practice Improvement

Quality improvement has constantly posed as a challenge for companies since producers normally have to deal with additional costs (Moradinaftchali, Song and Wang, 2016). Therefore, one of their major concerns involves selecting improvement operations in order to produce higher quality products with considerable expense savings, and improvement operations have indicated that while the quality is improved, productivity indeed grows (Deming, 2000; Roland, Christine, and Peter, 2002). Moreover, improvement practices have positively related to competitive advantages, and a variety of research studies and case studies on such a topic during the 1990s have drawn considerable interests (Jaca, Viles, Mateo and Santos, 2012). Those prior studies

helped determine and support the significance of constant, sustainable and efficient management of improvement activities and performance (Bateman and Arthur, 2002; Bateman and Rich, 2003). Improvement activities should be incorporated with strategic goals across boundaries, throughout the entire firm, as well as at every level (Asif, Joost de Bruijn, Douglas, and Fisscher, 2009; Kaye and Anderson, 1999). In addition, when process improvement is linked with strategic plans, it actually helps offer the essential direction while stimulating sustainability of improvement efforts (Brunet and New, 2003; Spackman, 2009).

Most firms tend to continue improving in consistence with dynamic strategic transformation. Therefore, continuous improvement can be viewed as an uncomplicated principle; specifically, in performance improvement, the company's employees constantly make slight changes of their work processes (Jorgensen, Boer, and Gertsen, 2003). Several authors agree that activities of constant improvement need to be incorporated in the company's strategic objectives (Caffyn, 1999; Lagace and Bourgault, 2003). Likewise, having the senior leadership team of the firm engaged in practice improvement work and in the development of formal structures that support it will result in enhanced sustainability of this way of working (Walsha et al., 2012). As Berg and Gottschalg (2005) point out, increasing sales, improving margins, eliminating managerial inefficiencies and reducing the capital requirements all serve as an approach to develop operation improvement.

Workplace values ought to consist of these following aspects: lifelong learning, challenges and assistance, the use of evidence and advancement as well as positivity towards change (Donsante et al., 2013), and they have long been considered important to explaining action in and around firms (Weber, 2002). In this research, valuable practice improvement refers to the development of operational planning, using various technique and procedure to consist with situation (Cape and Barkham, 2002; Gehman, Trevino, and Garud, 2013). Therefore, the hypothesis is proposed as below:

Hypothesis 6: The higher the valuable practice improvement is, the more likely that firm will gain greater firm performance.

New Process Development

According to Linton and Walsh (2008), process development serves as a determining factor of successful technological innovation. New process development concerns improvement of one's work process or, simply speaking, how one works (Utterback and Abernathy, 1975). Generally, this aspect of development takes place or is carried out in respect of production; the aims typically focus on the firm itself and frequently on cost reductions and higher quality products (Frishammar, Lichtenthaler and Richtner, 2013; Lager, 2002). Therefore, process development deals with changes in firm processes and production technologies; in addition, it is normally conducted in the context of production. Its goals generally center on the company and often focus on cost reductions and increased product quality (Kurkkio, Frishammar, and Lichtenthaler, 2011; Lager, 2002).

The outcomes of the new process development are cost savings, raised production levels. Yields from production are typically one of the desirable results (Lim, Garnsey and Gregory, 2006). The expected results comprise raised product quality, along with improved reliability, reduction of the time to market and more sustainably environmentally-friendly production (Gopalakrishnan, Bierly and Kessler, 1999; Lager, 2002). Reichstein and Salter (2006) found the positive relationship of the new process development on the company's overall performance and manufacturing performance (Gopalakrishnan et al., 1999). Hence, excellence in process development is completed by identifying, analyzing, and implementing ways of making value and performance for stakeholders (Sandhu and Gunasekaran, 2004). In this research, new process development refers to improvement of procedure schema and operation including using modern technology (Frishammar et al., 2013). Therefore, the hypothesis is proposed as below:

Hypothesis 7: The higher the new process development is, the more likely that firm will gain greater firm performance.

Working Method Creation

Detailed methods and tools for bringing about transform are widespread in both the management literature (Werr, 1995). In this perspective, collaborative method

creation is a key strategy that firms adopt to maintain competitiveness and sustainability (Bakker, Leenders, Gabbay, Kratzer, and Van Engelen, 2006; Khodakarami and Chan, 2014). The term ‘work methods’ is varying connotations and permutations such as standard operating methods, firm routines with recurrent interaction patterns/rule guided behavior and work tasks (Becker, 2005; Cohen, 2012). Therefore, work methods means utilizing a sequence of tasks towards the achievement of a goal (Jarbandhan, 2015), and they serve as a basis of proper work execution and the reliability process, which help ensure meeting of requirements of equipment availability to achieve business outcomes (Heston, 2013). Moreover, creating work methods means the detailed steps of work procedures or the stages which the transaction passes through from the beginning to the end and it is advised by supervisor affect performance (Al-Mahayreh1 and Abedel-qader, 2015).

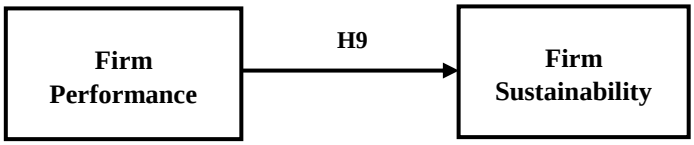
Based on this view, it can be inferred that work methods still serve as an approach to manage or handle firm operations aiming for simplification of work towards increased efficiency (Ijeoma and Nzewi, 2016). Therefore, work methods have the potential to develop a firm performance and work procedures must originate and develop from strategic content (Jarbandhan, 2015). However, this suggests that proper creation and the utilization of work methods can have certain rewards for firm performance and sustainability (Ijeoma and Nzewi, 2016).

Moreover, creativity implies an un-structured and spontaneous set of outcomes in which individuals are able to autonomously produce new ideas and concepts (Townley and Beech, 2010). It is likely that the process model influencing human thinking towards development and implementation of concepts influences the creation mode (Esterhuizena, Schuttea, and du Toit, 2012; Martin-de-Castro, Lopez-Saez, and Navas-Lopez, 2008). As a consequence, in this research, working method creation refers to designing new technique and operation continuously, including working method that is modern and quick, and using effective way and the least cost (Kerosuo and Engestrom, 2003; Ijeoma and Nzewi, 2016). Hence, the hypothesis is proposed as below:

Hypothesis 8: The higher the working method creation is, the more likely that firm will gain greater firm performance.

The Relationships Among Firm Performance on Firm Sustainability

Figure 4: The Relationships Among Firm Performance on Firm Sustainability



Firm Performance

In the current business world, much of attention is paid to firm performance. As pointed out by Venkatraman and Ramanujam (1986), financial and operational indicators serve to evaluate the performance. In particular, the former aspect, financial measures, are concerned with economic factors such as profitableness and sales growth, e.g. returns on sales, equity and investment, , while the latter, operational measures, are associated with non-financial success factors such as market effectiveness, product manufacturing, satisfaction, product quality and market share (Zehira, Canb, and Karaboga, 2015). What's more, in the survey, questions about firm performance are related to profitability and growth, thereby suggesting the evaluation of financial performance. The firm performance can be assessed in different aspects: financial performance such as profitableness, investment returns, product performance such as reliability of a product, unique products as well as market performance such as market share, customer satisfaction (Jones, Lanctot, and Teegen, 2001). Moreover, According to Hooley et al. (2001), greater distinctiveness and higher quality of products are related to superior performance.

As suggested by Morgan (2012), business performance comprises these following aspects: market performance, financial performance, and non-financial. Specifically, market performance is associated with a large sales volume, customer behavior, greater customer satisfaction, customer loyalty, and an increase of market shares. Meanwhile, the financial performance is concerned with rising profits while the last aspect non-financial performance is associated with effective performance and goal achievement. Besides, firm performance is working result which can reach the goal and objective and it is continuously set to point out the marketing, financial and non-financial effectiveness (Chai-Amonphaisal & Ussahwanitchakit, 2010; Tantiset and Ussahwanitchakit, 2010). Therefore, the hypothesis is proposed as below:

Hypothesis 9: The higher the firm performance is, the more likely that firm will gain greater firm sustainability.

Firm Sustainability

The sustainability revolution can be labeled as greater attention to long-term effects (Starik and Kanashiro, 2013). According to Labuschagne et al. (2005), the business sustainability can be explained as adoption of business strategies and activities which satisfy the desires of the enterprise and its stakeholders today. It also involves protection, sustenance and enhancement of the human and natural resources possibly being in need in the future. Firm sustainability assigns firms the key role of integrating and pursuing economic, environmental and social goals. Thus, firms struggle to link corporate sustainability practices and organizational performance. These efforts require enabling factors, namely organizational capabilities, which have yet to be identified and studied (Annunziata, Pucci, Frey, and Zanni, 2017).

Hence, sustainability ought to cover the entire firm's all business processes. There are several works focusing on the integration of sustainability concerning certain aspects of business, e.g. management of supply chain, innovation, operational management, product development, integrated management systems, ergonomics, eco-design and project management (Brones and Carvalho, 2014; Brones et al., 2014). Hence, there remain challenges to firm sustainability in respect of the incorporation of sustainability into business strategies (Gond et al., 2012). In this research, firm Sustainability refers to the organization which is conspicuous among its competitor because of its financial status and stable performance, and it is able to operate effectively under unstable situation (Yu and Zhao, 2014).

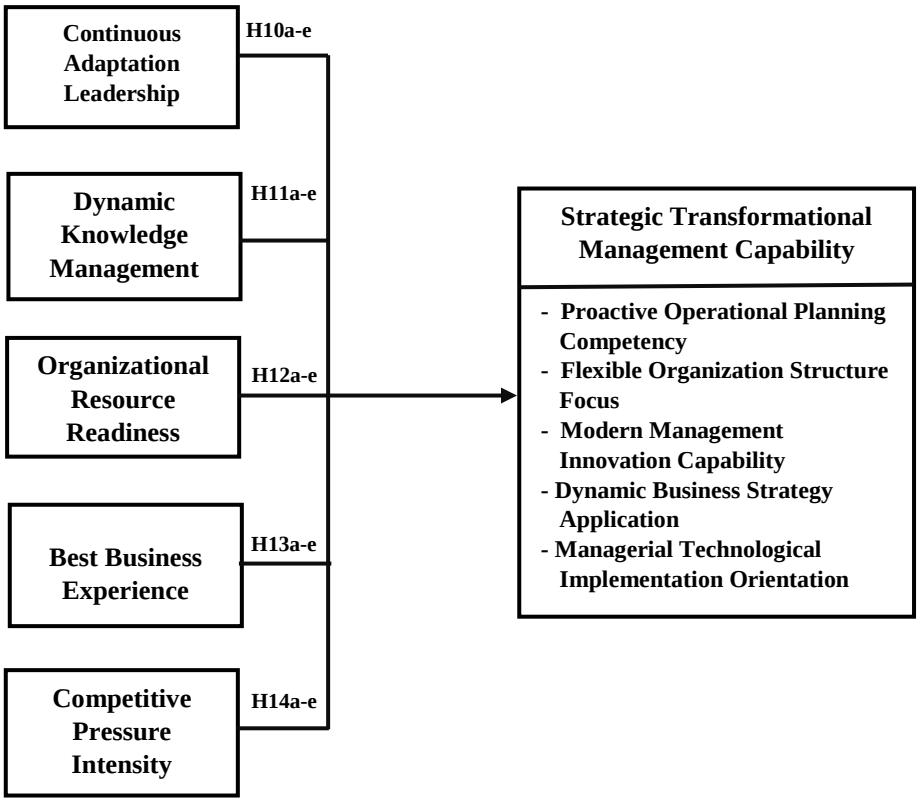
The Relationships Among Strategic Transformational Management Capability and Its Antecedents

The last part as fruitful area of strategic transformational management capability is found on the antecedents of strategic transformational management capability as defined into five key factors: continuous adaptation leadership, dynamic knowledge management, organizational resource readiness, best business experience

and competitive pressure intensity. However, relatively few articles have explored firm strategy with soft issues, particularly firm factors. This study attempts to clarify how firms select their strategies based on their firm factors as follows: continuous adaptation leadership, dynamic knowledge management, organizational resource readiness, best business experience, and competitive pressure intensity.

This part shows the moderating role of change climate on the relationships between these five antecedents and strategic transformational management capability. Therefore, these relationships are presented as sub-model as shown in Figure 5. This research has identified the electronic and electrical appliance business in Thailand which have both recognized the need for transformation, and have defined the goal they are working toward; the goal of creating a company that is basically entrepreneurial in nature that can modify and seize opportunity on a sustainable basis.

Figure 5: The Relationships Among Continuous Adaptation Leadership, Dynamic Knowledge Management, Organizational Resource Readiness, Best Business Experience and Competitive Pressure Intensity, and Strategic Transformational Management Capability



Continuous Adaptation Leadership

Leadership is considered as one of the vital factors influencing implementation of firm change (Herold, Fedor, Caldwell, and Liu, 2008; Higgs and Rowland, 2005; 2010; 2011; Liu, 2010). In addition, in stipulating management innovation, leaders will downgrade or remove incertitude and complexity associated with its pursuit (Birkinshaw et al., 2008) through articulation of a shared vision, change support, and enhancement of particular kinds of firm culture. According to Yukl (1994), leaders associated with the transformational process should be armed with several attributes in order to achieve strategic transformation. In particular, there are three of the traits vital to such achievement; first of all, they should be able to perceive the needs or requirement for change and to raise other in the company's awareness of how important or serious it is, and in performing the transition process, they should also be able to examine and resolve problem areas as well as cope with those who disapprove the change.; Finally, they should be able to develop a new vision and use it to give people inspiration.

In the present research, continuous adaptation leadership is similar to transformational leadership. In fact, transformational leadership has so far emerged as the most common approach to leadership (Hunt, 2005). Therefore, it is related to the advancement of one's maximum capacity and motivation for the common good against their interests, within a value-based framework (Middleton, Harvey, and Esaki, 2015). In the same vein, the model of transformational leadership proposed by Bass and Avolio's (1994) consists of these four components, namely idealized influence, inspirational motivation, intellectual stimulation, and individualized consideration. Those elements can be described as follows. Idealized influence occurs when leaders choose ethics over expediency and are morally committed to their followers and the firm without thinking of their self-interests or benefits (Kelloway, Turner, Barling, and Loughlin, 2012) while inspirational motivation is used by leaders to drive their employees towards achievement instead of improvement and communication of a share vision and high expectations (Wang, Oh, Courtright, and Colbert, 2011). Thirdly, intellectual stimulation is used to encourage their employees to challenge their assumptions, reframe issues, and use innovative ways to deal with any matter (Kelloway et al., 2012). Moreover, the transformational leaders use intellectual

stimulation to encourage their followers to challenge existing assumptions and voice their suggestions and notions (Wang et al., 2011). The last component individualized consideration exists where leaders leader' special attention is given to employees' needs for achievement and improvement; apart from hearing the needs, the leaders provide their employees with guidance, empathy, sympathy and assistance which are vital to their well-being (Kelloway et al., 2012). Taken in tandem, it is expected that all of the mentioned transformational leadership behaviors will help drive followers towards accomplishing greater performance (Bass, 1985). In addition, it has been discovered that the role of leadership is pertinent to employee willingness to communicate ideas to help improve the firm and its operation (Detert and Burris, 2007). Furthermore, transformational leadership behaviors can influence all three aspects of management innovation, namely structures management practices and processes (Vaccaro et al., 2012).

Transformational leadership provides a basis for long-term firm changes that in turn it will provide essential grounds for reaching to higher targets of firm system. Bass and Riggio (2006) found that the transformational leader has to challenge the status quo in the firm and make a convincing case for change. Among many leadership perspectives, transformational leadership is often connected with managerial effectiveness during firm change. In addition, every firm requires effective leaders who fulfill firm productivity by more follower's job satisfaction, performance, and commitments (Grant, 2012).

Apart from that, it is expected that leaders with transformational behaviors will engage in implementing the change by offering intellectual stimulation through the formulation of challenging objectives and the stimulation of new thinking (Eisenbach, Watson, and Pillai, 1999). Therefore, transformational management in the firm must have leader and the leader who is suitable must be transformational leadership in order to suit the firm. Transformational leadership plays a crucial role in the transformational management in firms; specifically, it serves as a driver of policies, structures, and strategies and getting that support and collaboration, which will lead to effective performance. Thus, in this research, continuous adaptation leadership refers to the ability in being a head who can administrate to consist with situations and follow

changed situation in the present and the future continuously (Termeer, Teisman, Nooteboom, and Deelstra, 2013). Therefore, the hypotheses are proposed as below:

Hypothesis 10: The higher the continuous adaptation leadership is, the more likely that firm will gain greater (a) proactive operational planning competency, (b) flexible organization structure focus, (c) modern management innovation capability, (d) dynamic business strategy application, and (e) managerial technological implementation orientation.

Dynamic Knowledge Management

Dynamic capabilities can be described as integrated sets of knowledge management activities which change, renew and use the firm's knowledge-based resources (Decarolis and Deeds, 1999; Dierickx and Cool, 1989). Perrin (2008) stated that knowledge management is a dynamic concept where one will find or encounter economic intelligence, collaborative instruments, social networks and learning firm. In the same way, knowledge management can be seen to assemble or contain different aims and procedures which trace; (1) formalizing, distributing, preserving, transmitting and reusing the firm's available knowledge and good practices; (2) managing external knowledge (documenting, economic intelligence); (3) developing or creating new knowledge (constant improvement, research – development) (Varzaru, 2013). According to Wong (2005), knowledge has been found as the significant factor among many others steering the firms towards achievement. Knowledge management involves enhancing new tasks which will help increase the value through sharing and producing new knowledge. In addition, the structure of knowledge management is transformed from behavioral and technical perspectives, serving as a new attribute or a set of actions, thus possibly with or without its structure (Varzaru, 2013). Consequently, efficient knowledge management helps the firms adapt to changing and turbulent environment (Zhao, Lu, and Wang, 2013).

Nevertheless, it is recognized that firms ought to perform dynamic knowledge management to build sustainable competitive advantages. In this dynamic knowledge management, humans and machine work in tandem to generate profits for the firm. Therefore, dynamic knowledge management people are rewarded for their outstand

performance metrics which help maintain or chain the market position of the firm (Piorkowski, Evans, Martin, and Gao, 2013). The synergies of firm unlearning and relearning serve as an approach to achieving this type management, which consequently offers new dynamic knowledge management (Zhao et al., 2013). On the other hand, firm unlearning defined as filtering and eliminating obsolete knowledge in fact serves as one of the important processes of this management while the other one firm relearning referred to as obtainment of external knowledge supports dynamic knowledge management (Zhao et al., 2013).

Hence, the notion of knowledge management relies on leadership and association of the selected strategies, and such a concept can help investigate a new quality having or not having a special structure (Varzaru, 2013). Knowledge has become one of the firms' most essential strategic factors (Spender, 1996), given there exists a link between the knowledge and the firms' capacity to establish competitive advantages (Teece, 2001). Furthermore, knowledge management is seen to pertain to business success as well as the firm's potential of improvement to respond to the changing and challenging environment in which the threats can be turned into opportunities (Calvo-Mora, Navarro-García, Rey-Moreno, and Perianez-Cristobal, 2016). Knowledge allows the firms to create innovation, make firm routines, grow and sustain itself, s and establish competitive advantages (Chen and Huang, 2009). Despite that, research did not, discover that compared with other aspects of knowledge management, dynamic knowledge management helped the company achieve the highest company performance (Choi and Lee, 2003).

In this research, dynamic knowledge management refers to ability in integrating learning obviously by sharing information between employees in order to have the effective performance (Piorkowski et al., 2013). Hence, the hypotheses are proposed as below:

Hypothesis 11: The higher the dynamic knowledge management is, the more likely that firm will gain greater (a) proactive operational planning competency, (b) flexible organization structure focus, (c) modern management innovation capability, (d) dynamic business strategy application, and (e) managerial technological implementation orientation.

Organizational Resource Readiness

The resource-based view (RBV) is a tool for considering the strategic resources available to a business, and it explains that through internal resources and capabilities a firm uses to build sources for competitive advantage (Barney, 1991). Resources comprise all of the firm's assets, technological tools, competencies, firm processes, features, data, experience, and knowledge (Kittikunchotiwut, Ussahawanitchakit and Pratoom, 2012). Moreover, organizational resources may be an asset, a competency, a firm process, information and knowledge which are controlled by the company. They are used to enhance the efficiency and effectiveness of the firm (Barney, 1991). Nevertheless, organizational resources improve employees' skill set, help reduce their job stress and contribute to their personal growth and advancement (Demerouti, Bakker, Nachreiner, and Schaufeli, 2001). In addition, Bakker, Demerouti, and Euwema (2005) view organizational resources as critical motivational antecedents that influence employees' work processes. Thus, resource readiness involves the capacity to allocate the firm's resources, to exploit them to their fullest potential, and have the capability to succeed efficiently. There should be the competence to realize the demand so that preparations can be made to handle the changing environment (Mrayyan, 2008; Tzokas, Saren, and Brownlie, 1997). Furthermore, resource readiness can be referred to as the availability of suitable and adequate resources for effective performance corresponding to the competitive environment. The resources can be assets and the firm's work processes. Accordingly, the company itself will manage information and knowledge to exploit existing resources. Thus, its efficiency and effectiveness will be enhanced, and the firm's resources serve to reinforce the new approach and drive firms to build competitive advantages (Barney, 1991; Foster & Swenson, 1997; Joshi, 2001; McGowan and Klammer, 1997).

Based on the integrative concept of RBV and readiness for change, organizational resource readiness refers to the firm's capacity to allocate firm resource existence to maximize benefits, and the adequacy of a firm's resource can compete with competitors (Tzokas, Saren, and Brownlie, 1997). Moreover, organizational resource focuses on tangible resources, for example resources, strategies, information knowledge, and opportunity (Kawano et al., 2008). Therefore, organizational resource

readiness has been shared over the firm where capability to produce products, offer new services, and create new processes will increase (Kratzer, Gemunden, and Lettl, 2008).

Thus, in this research, organizational resource readiness refers to ability of budget allocation and technology investment, and it emphasizes the improvement in employee knowledge systematically which leads to better operational changing (Sengupta, Yavas, and Babakus, 2015). Hence, the hypotheses are proposed as below:

Hypothesis 12: The higher the organizational resource readiness is, the more likely that firm will gain greater (a) proactive operational planning competency, (b) flexible organization structure focus, (c) modern management innovation capability, (d) dynamic business strategy application, and (e) managerial technological implementation orientation.

Best Business Experience

The experience not only supplements the ability and the quality of a firm's impalpable resource but also supports more capable utilization of the tangible resources, for example when a firm has improved a routine to do the same, and problem solving heuristics (Dierickx and Cool, 1989; Roberts and McEvily, 2005). Likewise, experience enhances assessment of new business and develops entrepreneurial judgment and assessment of new business both of which c necessary practical and policy implications. Therefore, Narayanan, Yang, and Zahra (2009) stated firms can be improve and use other firms' experience which can contribute to r competence improvement. Similarly, firm experience is of great value because the different experience contributes to a firm's capacity to manage its operation chosen in different contexts and applies the experience in a new market where there exist some similarities (Kuckertz and Wagner, 2010; Narayanan, Yang, and Zahra, 2009).

Firm experience can be referred to as the firm's knowledge and experiences pertaining to its operation which can be improved through specific experiences possibly later transformed into the ability of firm performance (Zou and Cavusgil, 2002). Especially, business experience usefulness is defined as the ability of a firm to attain the mistakes in the past and firms have experience with management, operation planning, and guideline implementation for present and future (Kittikunchotiwut,

Ussahawanitchakit, and Pratoom, 2012). Meanwhile, other research has shown that previous related business experience can impact business development and operations (Tanriverdi and Venkatraman, 2005) and improve an owner's understanding of the role of strategy in business success (Harris, Gibson, and McDowell, 2014). Therefore, greater experience can enhance both strategic decision making and improve internal firm and procedures. Specifically, West and Noel (2009) found that the depth of experience in the same type of strategic approach can make a difference in firm development. In this research, best business experience refers to gaining knowledge of individual performance which shows knowledge and competence in doing business, and the good business practices bring about learning experience and set the direction of operation in the present and in the future (Re & Rule, 2016; Tanriverdi and Veakatraman, 2005). Hence, the hypotheses are proposed as below:

Hypothesis 13: The higher the best business experience is, the more likely that firm will gain greater (a) proactive operational planning competency, (b) flexible organization structure focus, (c) modern management innovation capability, (d) dynamic business strategy application, and (e) managerial technological implementation orientation.

Competitive Pressure Intensity

Competition pressure is defined as the range of competitive atmosphere within the industry in which the companies perform (Lertwongsatien and Wongpinunwatana, 2003). Therefore, competitive pressure drives entrepreneurs' creativity; simply speaking, it encourages them to start doing something new and different from their competitors to stimulate innovative creativity (Meutia and Ismail, 2015). According to Porter (1985), firms keep their businesses under competitive pressure by utilizing five strength models which have an effect on industrial competition. The five forces are as follows: threat of new entry, power of customers, power of suppliers, threat of substitution, and competition among the existing companies. Moreover, competitive pressures can be found in various strategic settings, thereby pushing firms to be aware of their competitive environment and opt for processes which suit particular contexts (Sanders and Linderman, 2013). Thus, competitive pressure pushed a firm to be

adjustable with rapid and unsure change in business environment (Meutia and Ismail, 2015). The increasingly competitive pressure urges firms to constantly transform while business environment keeps changing. According to the contingency theory, competitive intensity is the external factor that significantly influences business structure, firm systems, business operations and performance (Sriboonlue, Ussahawanitchakit, and Raksong, 2016). Competitive intensity refers to hostility or dynamism, as reflected in the degree of competitive rivalry in the market (García-Zamora, González-Benito, and Muñoz-Gallego, 2013). Therefore, competitive intensity can be considered as another important factor which can determine the competitive market environment, which indicates the degree of competitiveness among firms (Auh and Menguc, 2005; Tsai and Yang, 2013). Nevertheless, Sanders and Linderman (2013) found that more stiff competition forced firms to modify their techniques for operation; the degree of competitive intensity of a firm's external environment possibly serves an important role in the efficiency of the particular firm's process management attempts.

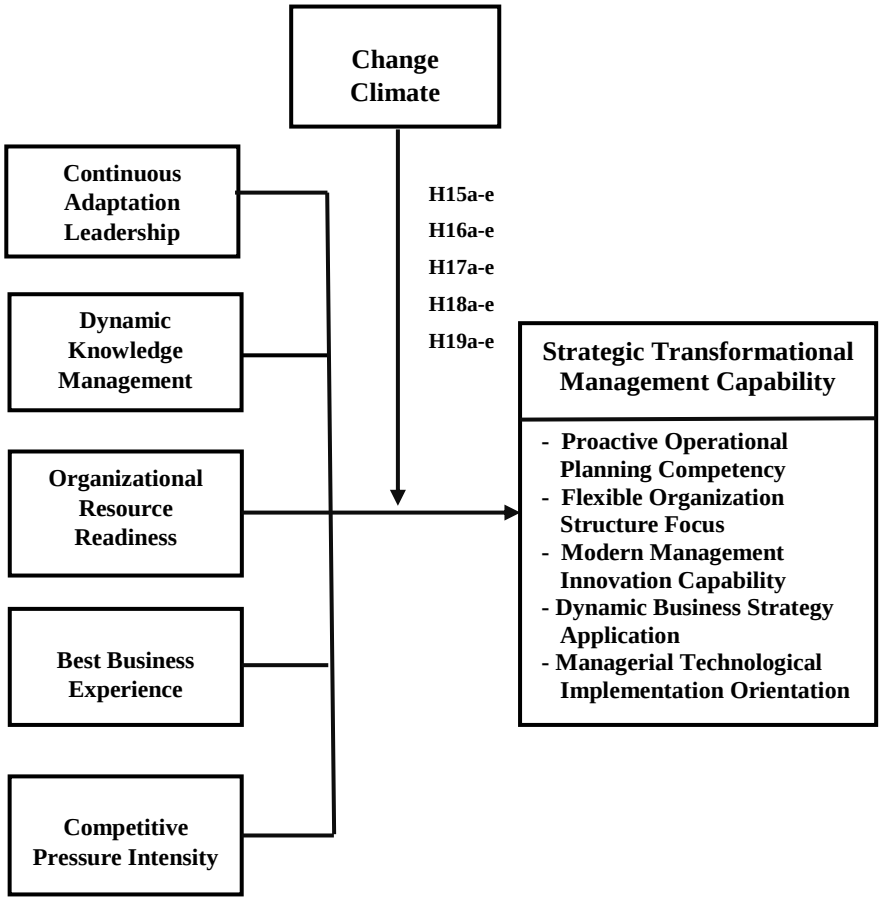
Competitive intensity generates business difficulties and complexities in business operations and processes (Sriboonlue et al., 2016) and it is also a key factor determining the competitiveness of the market environment, which will in turn indicate the level of competitiveness among firms (Auh and Menguc, 2005; Tsai and Yang, 2013). Thus, competitive intensity refers to hostility or dynamism, as reflected in the degree of competitive rivalry in the market (García-Zamora et al., 2013). Generally, strategic management indicates that competitive intensity might have a positive impact on innovation success because it creates opportunities, and stimulates creativeness, that leads to better business performance (Jermias, 2006; Porter, 1985). Thus, greater competitive intensity enhances the business results if the company operates for innovation in management, marketing, and products. On the other hand, any kind of process or firm innovation harms the improvement of the business results with low competitive intensity (García-Zamora et al., 2013). As a consequence, in this research, competitive pressure intensity refers to the higher level of contention pressure, and it affects focusing on individual ability, skills and consistency in the operational improvement of firm management (Mahapatra, Das, and Narasimhan, 2012). Hence, the hypotheses are proposed as below:

Hypothesis 14: The higher the competitive pressure intensity is, the more likely that firm will gain greater (a) proactive operational planning competency, (b) flexible organization structure focus, (c) modern management innovation capability, (d) dynamic business strategy application, and (e) managerial technological implementation orientation.

The Moderators of Strategic Transformational Management Capability

This section illustrates the moderating effects of change climate on the consequences of each of five dimensions of strategic transformational management capability as in Figure 6.

Figure 6: The Moderating Role of Change Climate on the Relationships Among Strategic Transformational Management Capability, Continuous Adaptation Leadership, Dynamic Knowledge Management, Organizational Resource Readiness, Best Business Experience and Competitive Pressure Intensity



In organizational research, climate refers to as the tenor of workplace life (Rock, 2009). The term firm climate can be defined as the employees' shared awareness toward their firm practices and methods (Patterson et al., 2005). In addition, change climate has developed into one of the most pertinent issues for government, firms and society in the 21st century (Enkvist, Naucler, and Oppenheim, 2008; Quiggin, 2012). Therefore, among many others, change climate is the most serious challenge and requires the selection of successful innovations in various sectors (Cristina De Stefano, Montes-Sancho, and Busch, 2016). What intensifies the issue of change climate is irresolution concerning magnitude and timing of its impact and classifications, as along with the formulation of uncertain and complicated public climate policies (Kolk and Pinkse, 2008). Such irresolution basically influences the firms' strategic decision-making processes (Hartel and Pearman, 2010; Weinhofer and Busch, 2013). As such, business ethicists and management scholars become interested in in the firm factors that can help make predictions of responses to change climate. Furthermore, change climate has emerged as the most crucial matter which affected the economic and business circles over the past decade (Lee, 2012), and it is gaining attention in the business community (Galbreath, Charles, and Oczkowski, 2016). The true and potential strategic effects of change climate on firms have become more intense (Kolk and Pinkse, 2005). Hence, enhancing pressure from regulations, environment oriented consumers, public opinions and financial institutions sectors has directed companies' attention to examine change climate in their strategic management (Sprengel and Busch, 2010; Weinhofer and Hoffmann, 2010).

Firm strategies to deal with change climate consist of technological innovation, entrepreneurship traditional strategic risk management procedure, and corporate social responsibility (CSR) (Wittneben, Okereke, Banerjee, and Levy, 2012). Similarly, the fact that change climate characterized as strategic is derived from the premise that environmental concerns or social pressures as well as business competitiveness all influence corporate reaction to environmental issues (Banerjee, Iyer, & Kashyap, 2003). Accordingly, firms will improve climate strategies which build market advantages and reduce risks by taking into account various factors, e.g. environmental popularity, degree of exposure to legal and regulatory risks, technological innovation and cost advantages (Haigh and Griffiths, 2012; Hoffman, 2005).

Consequently, most studies on management have investigated how companies were confronted with change climate uncertainties, especially which were caused by the unstable institutional landscape, by examining different carbon strategies or approaches, such as reactive/ defensive, proactive/innovative, and compensative that firms use or can use to deal with change climate (Backman, Verbeke, and Schulz, 2015; Cadez, 2016; Lee and Klassen, 2015). Moreover, using innovation to tackle change climate has been said to contribute to enhancing competitiveness and firm outcomes (Porter and Reinhardt 2007). As Porter and Reinhardt (2007) suggest, change climate can act as a catalyst for innovation, which can have positive effects on firm outcomes, such as performance, reputation and competitive advantages. Therefore, devotion of time for management, finance, knowledge and expertise all are important elements required for change climate innovations (Slawinski and Bansal 2012; York and Venkataraman, 2010). In the same way, a first area where change climate ushered in important change at the firm level is in the improvement of technologies and innovation (Howard-Grenville, Buckle, Hoskins, and George, 2014). Furthermore, Berkhout (2012) identified an amount of theoretical attitudes currently used to study firm adaptation to change climate, and identified them as behavioral approach, utility-maximization, , and institutional attitudes. First, firm adaptation requires to be known from the aspect of the goals and attitudes of the firm itself, rather than from the climate signal to which it may be responding through adaptations. Second, firm processes involves in perception, assessment, enactment, and learning about climate effects as well as adaptive responses. Third, change climate considerations frequently serve a supporting element in decisions about firms, technologies, , or strategic adaptation, even in sectors, where change climate is deemed paramount. In conclusion, firm must respond to change climate, then it led to performance and sustainable improving in firm.

Therefore, in this research, change climate refers to working environment changing which encourages employee to learn and follow the changed situation in the present and the future (Carrell, 2012). Therefore, the hypotheses are proposed as follows:

Hypothesis 15: The relationships between continuous adaptation leadership and (a) proactive operational planning competency, (b) flexible organization structure focus, (c) modern management innovation capability, (d) dynamic business strategy application, and (e) managerial technological implementation orientation will be positively moderated by change climate.

Hypothesis 16: The relationships between dynamic knowledge management and (a) proactive operational planning competency, (b) flexible organization structure focus, (c) modern management innovation capability, (d) dynamic business strategy application, and (e) managerial technological implementation orientation will be positively moderated by change climate.

Hypothesis 17: The relationships between organizational resource readiness and (a) proactive operational planning competency, (b) flexible organization structure focus, (c) modern management innovation capability, (d) dynamic business strategy application, and (e) managerial technological implementation orientation will be positively moderated by change climate.

Hypothesis 18: The relationships between best business experience and (a) proactive operational planning competency, (b) flexible organization structure focus, (c) modern management innovation capability, (d) dynamic business strategy application, and (e) managerial technological implementation orientation will be positively moderated by change climate.

Hypothesis 19: The relationships between competitive pressure intensity and (a) proactive operational planning competency, (b) flexible organization structure focus, (c) modern management innovation capability, (d) dynamic business strategy application, and (e) managerial technological implementation orientation will be positively moderated by change climate.

Summary

As aforementioned, this chapter explains the conceptual model of strategic transformational management capability and firm sustainability. This chapter has detailed the literature review, dynamic capabilities and knowledge-based view theory, conceptual framework, and has proposed a set of 19 testable hypotheses. Strategic transformational management capability is the main involvement of this research that it is focused on its antecedents and consequences. It also investigates the impact of valuable practice improvement, new process development, working method creation, firm performance on firm sustainability through the effect of moderating role of change climate. Table 3 presents summary of hypothesized relationships as shown below:

Table 3: Summary of Hypothesized Relationships

Hypothesis	Description of Hypothesized Relationships
H1a-e	The higher the proactive operational planning competency is, the more likely that firm will gain greater (a) valuable practice improvement, (b) new process development, (c) working method creation, (d) firm performance and (e) firm sustainability.
H2a-e	The higher the flexible organization structure focus is, the more likely that firm will gain greater (a) valuable practice improvement, (b) new process development, (c) working method creation, (d) firm performance and (e) firm sustainability.
H3a-e	The higher the modern management innovation capability is, the more likely that firm will gain greater (a) valuable practice improvement, (b) new process development, (c) working method creation, (d) firm performance and (e) firm sustainability.

Table 3: Summary of Hypothesized Relationships (continued)

Hypothesis	Description of hypothesized relationships
H4a-e	The higher the dynamic business strategy application is, the more likely that firm will gain greater (a) valuable practice improvement, (b) new process development, (c) working method creation, (d) firm performance and (e) firm sustainability.
H5a-e	The higher the managerial technological implementation orientation is, the more likely that firm will gain greater (a) valuable practice improvement, (b) new process development, (c) working method creation, (d) firm performance and (e) firm sustainability.
H6	The higher the valuable practice improvement is, the more likely that firm will gain greater firm performance.
H7	The higher the new process development is, the more likely that firm will gain greater firm performance.
H8	The higher the working method creation is, the more likely that firm will gain greater firm performance.
H9	The higher the firm performance is, the more likely that firm will gain greater firm sustainability.
H10a-e	The higher the continuous adaptation leadership is, the more likely that firm will gain greater (a) proactive operational planning competency, (b) flexible organization structure focus, (c) modern management innovation capability, (d) dynamic business strategy application, and (e) managerial technological implementation orientation.

Table 3: Summary of Hypothesized Relationships (continued)

Hypothesis	Description of hypothesized relationships
H11a-e	The higher the organizational resource readiness is, the more likely that firm will gain greater (a) proactive operational planning competency, (b) flexible organization structure focus, (c) modern management innovation capability, (d) dynamic business strategy application, and (e) managerial technological implementation orientation.
H12a-e	The higher the organizational resource readiness is, the more likely that firm will gain greater (a) proactive operational planning competency, (b) flexible organization structure focus, (c) modern management innovation capability, (d) dynamic business strategy application, and (e) managerial technological implementation orientation.
H13a-e	The higher the best business experience is, the more likely that firm will gain greater (a) proactive operational planning competency, (b) flexible organization structure focus, (c) modern management innovation capability, (d) dynamic business strategy application, and (e) managerial technological implementation orientation.
H14a-e	The higher the competitive pressure intensity is, the more likely that firm will gain greater (a) proactive operational planning competency, (b) flexible organization structure focus, (c) modern management innovation capability, (d) dynamic business strategy application, and (e) managerial technological implementation orientation.

Table 3: Summary of Hypothesized Relationships (continued)

Hypothesis	Description of hypothesized relationships
H15a-e	The relationships between continuous adaptation leadership and (a) proactive operational planning competency, (b) flexible organization structure focus, (c) modern management innovation capability, (d) dynamic business strategy application, and (e) managerial technological implementation orientation will be positively moderated by change climate.
H16a-e	The relationships between dynamic knowledge management and (a) proactive operational planning competency, (b) flexible organization structure focus, (c) modern management innovation capability, (d) dynamic business strategy application, and (e) managerial technological implementation orientation will be positively moderated by change climate.
H17a-e	The relationships between organizational resource readiness and (a) proactive operational planning competency, (b) flexible organization structure focus, (c) modern management innovation capability, (d) dynamic business strategy application, and (e) managerial technological implementation orientation will be positively moderated by change climate.
H18a-e	The relationships between best business experience and (a) proactive operational planning competency, (b) flexible organization structure focus, (c) modern management innovation capability, (d) dynamic business strategy application, and (e) managerial technological implementation orientation will be positively moderated by change climate.

Table 3: Summary of Hypothesized Relationships (continued)

Hypothesis	Description of hypothesized relationships
H19a-e	The relationships between competitive pressure intensity and (a) proactive operational planning competency, (b) flexible organization structure focus, (c) modern management innovation capability, (d) dynamic business strategy application, and (e) managerial technological implementation orientation will be positively moderated by change climate.

CHAPTER III

RESEARCH METHODS

This chapter describes the research methods that help to clarify the understanding of the hypothesis testing process. Thus, this chapter is organized into four sections as follows. Firstly, it details sample selection and data collection procedure including population and sample, data collection, and test of non-response bias are detailed. Secondly, the variable measurements are developed. Thirdly, the method part, involving with the test of validity and reliability, and analytical statistics, are presented. Lastly, the table that presents the summary of definitions and operational variables of constructs is included.

Sample Selection and Data Collection Procedure

This research attempts to examine the relationship among strategic transformational management capability, its antecedence, and consequence that evidence from the electronic and electrical appliance business in Thailand. Moreover, this research also examines the moderating effect of change climate for change. Therefore, the electronic and electrical appliance business in Thailand was chosen to study for many reasons. Firstly, the electronic and electrical appliance business in Thailand is one of the fast growing businesses facing the challenges pertaining to become innovation industry and its products need to be improved and designed to serve customer requirement. Secondly, the current environment has changed over the years to change their business strategies for firm sustainability. In this research, the researcher selects the electronic and electrical appliance business in Thailand because the research focuses on transformational management.

Population and Sample

The population includes the most important firms from the electronic and electrical appliance business in Thailand which were manufacturing businesses. The sampling frame was gathered from website (http://www.dbd.go.th) lists of the electronic

and electrical appliance at business data warehouse, the Department of Business Development, Thailand (as of December, 2016). The list is considered the most appropriate source to use because it is developed by the Department of Business Development, and is also provided the updated firms list available for public use. A total of 656 firms were identified. Hence, the population was selected all as the sample. According to Yamane (1973), the required sample size in this research is determined under the 95% confidence is 249 firms. However, a 20% response rate from mail surveys, without an appropriate follow-up procedure is sufficient (Aaker, Kumar, and Day, 2001). Therefore, 1,245 firms are an appropriate sample for a distributed mail survey. However, in this research, with a population of 656 firms, the population and sample are the same group. Therefore, 656 firms were selected as the sample for data collection.

The managing director or managing partner are the respondents representing the sample from the electronic and electrical appliance firm as unit of analysis in this research. These key informants are selected because managing director or managing partner truly understand their business and can provide the reality knowledgeable about strategic transformational management capability, firm sustainability, and firms' overall activities. The key informants received information from a wide range of departments and were therefore a very valuable source for evaluating the different variables of the firm. Essentially, these key informants are important for researchers to obtain the reliable information (Campbell, 1995). In this research, managing director is the main key informant which has the right to manage and control the operation, plan and firm performance, and present them to the shareholders. Managing partner is the main key informant authorized to be a representative of limited partnership as managing partner can act as the owner and can manage the operation itself.

Data Collection

The questionnaires are appropriately used to collect data in this research. These are a widely-used method for large-scale data collection in strategic transformational, management and organizational research. The advantage of questionnaire mailing is that a representative sample can be collected from the chosen population in a variety of locations at low cost (Pongpearchan and Ussahawanitchakit, 2011). In this research, the

questionnaire will be directly distributed to the key informants; managing director or managing partner of the electronic and electrical appliance business in Thailand. Then, the completed questionnaires were directly sent back to the researcher by the prepared return envelopes in order to ensure confidentiality within four weeks. Lastly, for the undelivered mails, firms which were no longer in business were eliminated.

In this research, a valid and reliable self-administered questionnaire comprises seven sections. In the first section, asks the key informants for personal information such as gender, age, marital status, education levels, work experience, average monthly income at present, and current position. The second section questions the organizational characteristics such as type of business, type of business, industrial category, business location, number of employees, operation capital, operating periods, firm average revenue per year, and major customer. For the third to sixth sections, respondents are canvassed on their perceptions toward strategic transformational management capability, its consequences, antecedents, and other influences. Moreover, the Likert five-point interval scale, ranging from 1 = strongly disagree to 5 = strongly agree, is employed.

To be more specific, the third section collects the key concepts of strategic transformational management capability dimensions: proactive operational planning competency, flexible organization structure focus, modern management innovation capability, dynamic business strategy application, and managerial technological implementation orientation. The forth section presents questions concerning the consequences of strategic transformational management capability, including valuable practice improvement, new process development, working method creation, firm performance and firm sustainability. The fifth section includes questions regarding to the antecedents of strategic transformational management capability including continuous adaptation leadership, dynamic knowledge management, organizational resource readiness, best business experience, and competitive pressure intensity. The sixth section consists of a set of questions relating to change climate that affects the relationship among strategic transformational management capability antecedents and consequences. Finally, the seventh section provides an open-ended question to gather key respondent suggestions and opinions. Altogether, there are a total of 78 items in the

questionnaire. This questionnaire is attached in Appendix G (Thai version) and Appendix H (English version).

All 656 questionnaires were sent on June 18, 2017. Then, the finished questionnaire was sent back directly to the researcher by mail. As a result, the questionnaire mailing, 18 surveys were undeliverable because some firms were no longer in business or had moved to unknown locations. Deducting the undeliverable from the original 656 mailed, the valid mailing was 638 surveys, the non-response questionnaires 463, from which 175 responses were received. Of the surveys completed and returned, only 167 were usable. The effective response rate was 26.17 percent. With regard to Aker, Kumar and Day (2001), 20 percent response rate for a mail survey, without an appropriate follow-up procedure, is sufficient. Thus, the response rate of this dissertation is considered acceptable. Table 4 shows the result for details of questionnaire mailing used for analysis in this dissertation.

Table 4: Details of Questionnaire Mailing

Details	Numbers
Mailed Questionnaires	656
Undelivered Questionnaires	18
Valid Questionnaire Mailing	638
Non-response Questionnaires	463
Received Questionnaires	175
Unusable questionnaires	8
Usable questionnaires	167
Response Rate (167/638) x 100	26.17%

Test of Non-Response Bias

The testing of non-response bias is the important step before the sample is generalized to population. Armstrong and Overton (1977), a Pearson chi-square comparison of demographics information between early and late respondents are tested to prevent and assure possible response bias problem. By extrapolation methods have the assumption that subjects who answer later, or require more prodding to answer, they

are more likely to be treated as non-respondents. If the results of the chi-square statistics show no statistically significant differences of demographics information between early and late respondents, then there is no non-response bias problem between respondents and non-respondents (Lewis, Hardy, and Snaith, 2013; Rogelberg and Stanton, 2007).

In this research, all received 167 questionnaires were separated into two equal groups. The early respondents are the first group and the late respondents are the second. The first fifty percent of responses were defined as the early group of respondents (n = 84) and the last fifty percent of responses were defined as the late group of respondents (n = 83). Both groups were tested using a chi-square statistic to compare the differences between the two groups by using the demographics of the firm such as product type of business, industrial category, business location, number of employees, operational capital, operating periods, firm average revenue per year and major customer.

The results are as follow: the type of business (Pearson chi-square = 0.302, $p > 0.05$), the industrial category (Pearson chi-square = 0.944, $p > 0.05$), the business location (Pearson chi-square = 0.893, $p > 0.05$), the number of employee (Pearson chi-square = 0.469, $p > 0.05$), the operation capital (Pearson chi-square = 0.242, $p > 0.05$), the operating periods (Pearson chi-square = 0.836, $p > 0.05$), the firm average revenue per year (Pearson chi-square = 0.364, $p > 0.05$), and the major customer (Pearson chi-square = 0.066, $p > 0.05$). These results provide the evidence that there were no statistically significant differences between two groups at a 95% confidence level. It can be confidently mentioned that non-response bias is not a serious problem in this research (Armstrong and Overton, 1977). The results of the non-response bias test are shown in Appendix E.

Measurements

In measuring each construct in the conceptual model, multiple items measurement processes were developed. Constructs are the abstractions that cannot be directly measured or observed and should be measured by multiple items (Churchill, 1979). Moreover, using multiple items provides a wider range of the content of conceptual definition and improvement of reliability (Neuman, 2006). These constructs

are transformed into the operational variables for true measuring. Furthermore, the measurement of each construct in the conceptual model was developed from the definition for measuring, and all variables gained from the survey are measured by a five-point Likert scale, ranging from 1 (strongly disagree) to 5 (strongly agree). In summary, all operational definitions of each construct which are consisted of the dependent variable, the independent variables, the moderating variables, and the controlled variables, are described below.

Dependent Variables

Firm sustainability

With regard to research on firm sustainability, this sustainability construct is measured by the adapted scale from Phokha and Ussahawanitchakit (2011) and new scale based on its definitions and literature reviews, including a five-item scale. It illustrates business outcomes in the form of profitability, reputation over competitors in the long-run, operate effectively in the future, steady and stable performance and operate under situations.

Independent Variables

This research comprises of 15 independent variables which are separated into three categories; core construct, consequential variables, and antecedent variable. The first group is a core construct of this research, which is strategic transformational management capability which includes the five dimensions: proactive operational planning competency, flexible organization structure focus, modern management innovation capability, dynamic business strategy application, and managerial technological implementation orientation. The measure of each construct depends on its definition, which is also detailed.

Proactive operational planning competency

Proactive operational planning competency is measured by the firm's ability to research and analyze competitive situation in the present and the future in order to set policy and working direction for more efficiency performance. This construct is

developed by a new scale regarding its definition and literature reviews, including a four-item scale.

Flexible organization structure focus

Flexible organization structure focus is measured by four-item scale (Ngowsiri and Ussahawanitchakit, 2012; Yu, Tang, and Niederhoff, 2011), and it is defined as firms' capability in having an organic structure, work group method, experience, sharing information that enables getting more benefits under environment change.

Modern management innovation capability

Modern management innovation capability is measured by a new scale with a four-item scale regarding its definition and literature reviews. Modern management innovation capability, in this research, is assessed by an intention of firm behaviors that creates, novelizes, improves, changes and develops operation continuously.

Dynamic business strategy application

Dynamic business strategy application is measured by a new scale with a four-item scale regarding its definition and literature reviews. Dynamic business strategy application, in this research, is assessed by method, operational orientation, operational development and research in a dynamic business environment.

Managerial technological implementation orientation

Managerial technological implementation orientation is measured by a new scale with a four-item scale regarding its definition and literature reviews. Managerial technological implementation orientation, in this research, is assessed by investment and technological implementation that involve in management, learning encouragement and understanding technology and excellent technology system in the modern business world.

Consequential Variables

The second category is the consequences of strategic transformational management capability, namely, valuable practice improvement, new process

development, working method creation, and firm performance. The measure of each consequential variable conforms to its definition and relative literature, discussed as follows.

Valuable practice improvement

Valuable practice improvement is gauged using four-item scale containing the predominant operation by their operational and practiced development, practicing changes and problem solving that lead to sale increase, margin improvements, and reductions in managerial inefficiencies. This construct is developed by a new scale.

New process development

New process development is measured by the firm's ability to develop pattern and working process, technology, knowledge and talented team that lead to high performance and sustainability. This construct is developed by a new scale which includes a four-item scale.

Working method creation

Working method creation is measured by the firm's ability in designing and implementing novel method, synthesis and administrative innovation and they maintain a functional application in the management of firm operations with the aim of simplifying work towards greater efficiency. This construct is developed by a new scale which includes a four-item scale.

Firm performance

Firm performance is measured by the accomplish goals increasing high income, market share, old and new clients and high performance. The assessment of this construct is developed, based on its definitions and literature reviews, including a five-item scale.

Antecedent Variables

Lastly, the third category is the five antecedents of strategic transformational management capability comprised of continuous adaptation leadership, dynamic

knowledge management, organizational resource readiness, best business experience and competitive pressure intensity. All antecedent variables align to their definitions and prior literature. The measure of each variable is discussed as follows.

Continuous adaptation leadership

Continuous adaptation leadership is measured by perceptions about the behavior of leadership in the firm by supporting learning, changes, encouraging employee development and being the leaders who are consistent with situation. The assessment of this construct is developed, based on its definitions and literature reviews, including a four-item scale.

Dynamic knowledge management

Dynamic knowledge management is measured by the firm's ability in good knowledge management, knowledge sharing between employees and supporting knowledge creation that associate with business success and with the capacity of adaptation of the company to the changing and challenging environment, where the threats can be turned into opportunities. This construct is developed by a new scale which includes a four-item scale.

Organizational resource readiness

Organizational resource readiness is measured by the degree of the completeness of the asset, technology, knowledge or skill and modern system that are necessary to the business process. The assessment of this construct is developed, based on its definitions and literature reviews, including a four-item scale.

Best business experience

Business experience is measured by the degree of the outcome of the process, or reality of knowledge or wisdom of business that is observed, discovered, understands, and remembers that is the knowledge gained of person. This scale measure was adapted from Dawes and Lee (1996), including a four-item scale.

Competitive pressure intensity

Competitive pressure is measured by four-item scale , and it is defined as that environmental diversity consists of market diversity; amount of distinct products offered, client, competitor, and supplier diversification wherein measured by the number of competitor that firms in diversity markets are potential to make good decisions and perceive market risks. This construct is adapted from Wang and Ahmed (2009).

Moderating Variables

Drawing on the contingency theory, there is one purposed moderator in this research. Change climate on the external point of view which moderates the relationships among strategic transformational management capability and its consequences. These moderators are grounded in their definitions and the previous literature. The measure of each moderating variable is discussed as follows.

Change climate

Change climate is measured by the degree of the working environment changing which encourages employee to learn and follow the changed situation in the present and the future. The assessment of this construct is developed, based on its definitions and literature reviews, including a four-item scale.

Control Variable

Firm capital. Firm capital is measured as the money or assets on investment operation in a firm. According to Leiblein, Reuer, and Dalsace (2002), large firms may also have greater market power or positional advantages compared to their smaller rivals; and larger firms often have superior financial status. With the amount of money, the firms were divided into two groups: less than 25 million Baht, and more than 25 million Baht. In this research, firm capital is similar to operation capital represented by dummy including 0 (less than 25 million Baht) and 1 (equal or more than 25 million Baht), adapted scale from Thatrak (2015); Henklang (2014).

Major customer. Major customer is a control variable because firms have increasingly embraced internationalization of their businesses, a process through which

a firm moves from operating solely in its domestic marketplace to international markets (Andersen, 1993; Buckley and Casson, 1998; O' Farrell, Wood, and Zheng, 1998). Moreover, customers are very different nowadays, because of their exposure to information, they are better educated, and more demanding in the products and services they require, and they are more familiar with technology (Angelova and Zekiri, 2011). In this research, major customer is represented by a dummy variable in which 0 represents firms with customer in domestic and 1 represents firms with customer in foreign.

Methods

In this research, most of constructs in the conceptual model are newly developed. Consequently, a pre-test method is appropriately conducted to assert the validity and reliability of the questionnaire. Firstly, the questionnaire will be double-checked by a specialist and experienced scholars. Later, the rationale of the pre-test will be conducted to check for clear and accurate understanding of the questionnaire before using real data collection.

Validity and Reliability

Validity reflects the accuracy of the measurement that evinces the concept of consideration (Hair, Black, Babin, and Anderson, 2010). In order to verify the research instrument accuracy and validity, this research examines content and constructs validity of the questionnaire.

Firstly, content validity is extent to which the items of the scales are sufficiently reflected the interrelated theoretical domains (Green, Tull, and Albaum, 1988). It refers to the degree to which the essence of the scale represents the construct being measured (Thoumrungroje, 2013). With regarding to relevant theory and literature review, each of the items in a questionnaire will be subjectively assessed by a specialist and related academic expert (see also Appendix I).

Secondly, construct validity refers to a set of measured item that actually reflects the theoretical latent construct that those items are design to measure (Hair, Black, Babin, Anderson, and Tatham, 2006). If the scale really reflects and indicates its

designated construct then convergent validity and discriminant validities should be established. Convergent validity demonstrates items that indicators of a specific construct converge or share a high proportion of variance in common (Hair et al., 2010). It is the accuracy of a scale in correlating with other scales that are designed to measure the same construct (Thoumrungroje, 2013). Discriminant validity is the extent to which a construct is truly distinct from other constructs (Hair et al., 2010). It is the accuracy of a scale in distinguishing itself from other scales to measure a different construct (Thoumrungroje, 2013). In short, this validity also means that individually-measured items should represent only one construct. Therefore, both exploratory factor analysis (EFA) and confirmatory factor analysis (CFA) are used to examine the construct validity of the data in the questionnaire. Moreover, to ensure the construct validity, the size of the factor loading must be greater than the 0.40 cut-off and statistically significant (Nunnally and Berstein, 1994).

In this research, construct validity is demonstrated by convergent validity. Convergent validity illustrated that the item are indicator of a specific construct converge or share a high proportion of variance in common. Therefore, the high values of factor loading were considered in a specific construct. The result found that each item of all variable is loaded on a single factor and the range of factor loading is between 0.796 and 0.955 for EFA, and between 0.741 and 0.976 for CFA. These values are greater than the cut-of score of 0.4 which indicates acceptable construct validity (see Appendix B for more details).

Reliability. Reliability is the degree to which the measurement is trustiness and error-free (Hair et al., 2010). In this research, the Cronbach's alpha coefficient will be used to test the internal consistency of each constructs. 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 will be employed to estimate the reliability. As suggested by Nunnally and Bernstein (1994), Cronbach's alpha coefficient is recommended that its value should be equal to or greater than 0.70, as widely accepted (see also Appendix B for more details).

In Appendix B shows the factor loadings and Cronbach's alpha of all variables in the pre-test by using 30 items of returned questionnaires. In this research, the factor loading range is from 0.741 to 0.976. Moreover, factor loadings of each item were

greater than the 0.40 cutoff and statistically significant, which is recommended by Nunnally and Bernstein (1994). Consequently, there is construct validity. Additionally, the Cronbach's alpha coefficients for all variables expressed between 0.740 and 0.857 that are greater than 0.60 as recommended by Moss et al., (1998).

Statistics Techniques

In this research, before hypotheses testing, the basis of checking all the raw data for regression analysis using the ordinary least squares method (OLS), such as the outlier, missing data, normality, linearity, and multicollinearity will be tested.

Variance inflation factor. To deal with the multicollinearity problem, this research will employ a variance inflation factor (VIF) and a tolerance value as indicators to indicate a high degree of multicollinearity among the independent variables. Regarding Hair et al. (2006), when a tolerance value must be greater than 0.10 and the VIF should be less than 10, and then multicollinearity is not a concern (Hair et al., 2010). In this research, an analysis of collinearity statistics indicates that the range of VIF values is 1.017-3.934, which further indicates that there is no multicollinearity problem (see also Appendix F, Table 1G for more details).

Correlation analysis. Correlation analysis will be illustrated to test the correlation among all variables, and a correlation matrix will be provided to show the intercorrelations among all variables for the initial analysis. If the variables become highly correlated, the correlation coefficient is greater than 0.8 and shows significance, then multicollinearity may occur (Hair et al., 2010; Homberg, Artz, and Wieseke, 2012). Consequently, factor analysis will be used to group highly-correlated variables together, and the factor score of all variables are prepared to avoid the multicollinearity problem. Pearson correlation analysis was used because the data that was used in this research was interval level. Consequently, the relationships between independent variables are not problematic and are shown in Table 6 (Chapter four).

Multiple regression analysis. The Ordinary Least Squares (OLS) regression analysis is used to test all postulated hypotheses. Since both dependent and independent variables in this research are categorical data and interval data, OLS is an appropriate method for examining the hypothesized relationships (Hair et al., 2010). As a result, all proposed hypotheses in this research are transformed into seventeen statistical equations. Each equation conforms to the hypothesis development described in the previous chapter. The equations are depicted as shown below:

Equation 1: $VPI = \alpha_1 + \beta_1 POPC + \beta_2 FOSF + \beta_3 MMIC + \beta_4 DBSA + \beta_5 MTIO + \beta_6 FC + \beta_7 MC + \varepsilon_1$

Equation 2: $NPD = \alpha_2 + \beta_8 POPC + \beta_9 FOSF + \beta_{10} MMIC + \beta_{11} DBSA + \beta_{12} MTIO + \beta_{13} FC + \beta_{14} MC + \varepsilon_2$

Equation 3: $WMC = \alpha_3 + \beta_{15} POPC + \beta_{16} FOSF + \beta_{17} MMIC + \beta_{18} DBSA + \beta_{19} MTIO + \beta_{20} FC + \beta_{21} MC + \varepsilon_3$

Equation 4: $FP = \alpha_4 + \beta_{22} VPI + \beta_{23} NPD + \beta_{24} WMC + + \beta_{25} FC + \beta_{26} MC + \varepsilon_4$

Equation 5: $FP = \alpha_5 + \beta_{27} POPC + \beta_{28} FOSF + \beta_{29} MMIC + \beta_{30} DBSA + \beta_{31} MTIO + \beta_{32} FC + \beta_{33} MC + \varepsilon_5$

Equation 6: $FSUS = \alpha_6 + \beta_{34} FP + \beta_{35} FC + \beta_{36} MC + \varepsilon_6$

Equation 7: $FSUS = \alpha_6 + \beta_{37} POPC + \beta_{38} FOSF + \beta_{39} MMIC + \beta_{40} DBSA + \beta_{41} MTIO + \beta_{42} FC + \beta_{43} MC + \varepsilon_7$

Equation 8: $POPC = \alpha_8 + \beta_{44} CAL + \beta_{45} DKM + \beta_{46} ORR + \beta_{47} BBE + \beta_{48} CPI + B_{49} FC + \beta_{50} MC + \varepsilon_8$

Equation 9: $FOSF = \alpha_9 + \beta_{51}CAL + \beta_{52}DKM + \beta_{53}ORR + \beta_{54}BBE + \beta_{55}CPI + B_{56}FC + \beta_{57}MC + \varepsilon_9$

Equation 10: $MMIC = \alpha_{10} + \beta_{58}CAL + \beta_{59}DKM + \beta_{60}ORR + \beta_{61}BBE + \beta_{62}CPI + B_{63}FC + \beta_{64}MC + \varepsilon_{10}$

Equation 11: $DBSA = \alpha_{11} + \beta_{65}CAL + \beta_{66}DKM + \beta_{67}ORR + \beta_{68}BBE + \beta_{69}CPI + B_{70}FC + \beta_{71}MC + \varepsilon_{11}$

Equation 12: $MTIO = \alpha_{12} + \beta_{72}CAL + \beta_{73}DKM + \beta_{74}ORR + \beta_{75}BBE + \beta_{76}CPI + B_{77}FC + \beta_{78}MC + \varepsilon_{12}$

Equation 13: $POPC = \alpha_{13} + \beta_{79}CAL + \beta_{80}DKM + \beta_{81}ORR + \beta_{82}BBE + \beta_{83}CPI + \beta_{84}CC + B_{85}CC*CAL + \beta_{86}\, CC*DKM + \beta_{87}CC*ORR + \beta_{88}\, CC*BBE + B_{89}\, CC*CPI + \beta_{90}FC + \beta_{91}MC + \varepsilon_{13}$

Equation 14: $FOSF = \alpha_{14} + \beta_{92}CAL + \beta_{93}DKM + \beta_{94}ORR + \beta_{95}BBE + \beta_{96}CPI + \beta_{97}CC + B_{98}CC*CAL + \beta_{99}\, CC*DKM + \beta_{100}\, CC*ORR + \beta_{101}\, CC*BBE + B_{102}\, CC*CPI + \beta_{103}FC + \beta_{104}MC + \varepsilon_{14}$

Equation 15: $MMIC = \alpha_{15} + \beta_{105}CAL + \beta_{106}DKM + \beta_{107}ORR + \beta_{108}BBE + \beta_{109}CPI + \beta_{110}CC + B_{111}CC*CAL + \beta_{112}CC*DKM + \beta_{113}\, CC*ORR + \beta_{114}\, CC*BBE + B_{115}\, CC*CPI + \beta_{116}FC + \beta_{117}MC + \varepsilon_{15}$

Equation 16: $DBSA = \alpha_{16} + \beta_{118}CAL + \beta_{119}DKM + \beta_{120}ORR + \beta_{121}BBE + \beta_{122}CPI + \beta_{123}CC + B_{124}\, CC*CAL + \beta_{125}\, CC*DKM + \beta_{126}\, CC*ORR + \beta_{127}\, CC*BBE + B_{128}CC*CPI + \beta_{129}FC + \beta_{130}MC + \varepsilon_{16}$

Equation 17: $MTIO = \alpha_{17} + \beta_{131}CAL + \beta_{132}DKM + \beta_{133}ORR + \beta_{134}BBE + \beta_{135}CPI + \beta_{136}CC + B_{137}\ CC*CAL + \beta_{138}\ CC*DKM + \beta_{139}\ CC*ORR + \beta_{140}\ CC*BBE + B_{141}\ CC*CPI + \beta_{142}FC + \beta_{143}MC + \varepsilon_{17}$

Where,

STMC = Strategic Transformational Management Capability
POPC = Proactive Operational Planning Competency
FOSF = Flexible Organization Structure Focus
MMIC = Modern Management Innovation Capability
DBSA = Dynamic Business Strategy Application
MTIO = Managerial Technological Implementation Orientation
VPI = Valuable Practice Improvement
NPD = New Process Development
WMC = Working Method Creation
FP = Firm Performance
FSUS = Firm Sustainability
CC = Change Climate
CAL = Continuous Adaptation Leadership
DKM = Dynamic Knowledge Management
ORR = Organizational Resource Readiness
BBE = Best Business Experience
CPI = Competitive Pressure Intensity
FC = Firm Capital
MC = Major customer
α = Constant
β = Regression Coefficient
ε = Error Term

Summary

This chapter summarizes the research methods used in the investigation for this research, from simple selection to data gathering, examining all constructs purposed in the conceptual model, and to answer the research questions. To be specific, there are four main parts in this chapter: (1) sample selection and data collection procedures, (2) measurement of variables, (3) verification of instrument, and (4) statistical techniques. A total list of 656 the electronic and electrical appliance firms were provided by Department of Business Development in Thailand. The key informants completing questionnaire are the managing director or managing partner. The data were collected by self-administered questionnaires and the non-response bias will tested, as well as the validity and reliability measurement. Therefore, this chapter presents the variable measurements of each construct and summarizes. Additionally, the descriptive, correlation, and Ordinary Least Squares (OLS) regression analysis are processed to prove the 19 hypotheses. Finally, a summary of the constructs' definitions and the operational explanation is given in Table 5.

Table 5: Definitions and Operational Variables of Constructs

Constructs	Definitions	Operational Definitions	Scale Sources
Dependent variables			
Firm Sustainability	The firm which is conspicuous among its competitor because of its financial status and stable performance, and it is able to operate effectively under unstable situation.	It illustrates business outcomes in the form of profitability, reputation over competitors in the long-run, operate effectively in the future, steady and stable performance and operate under situations.	Phokha and Ussahawanitchakit (2011)
Independent variables			
Strategic transformational management capability	The ability to change working method to achieve a goal by creating skills, concepts and new working behavior, and this ability applies technologies which have modern innovation of management in the concept of flexible firm to make it apparel to changed environment.	Consist of five characteristics: - Proactive operational planning competency - Flexible organization structure focus - Modern management innovation capability - Dynamic business strategy application - Managerial technological implementation orientation	New Scale

Table 5: Definitions and Operational Variables of Constructs (continued)

Constructs	Definitions	Operational Definitions	Scale Sources
Independent variables			
Proactive operational planning competency	Having the ability to research and analyze competitive situation in the present and the future in order to set policy and working direction for more efficiency performance.	An ability to consider to be related with how to orchestrate firm resources in order to implement strategies, the operations capabilities construct is considered to be related to the ability of firms to use their resources effectively and efficiently.	New Scale
Flexible organization structure focus	The ability to integrate and combine working together by operation horizon and it can provide successful management.	Firms' capability in having an organic structure, work group method, experience, sharing information that enables getting more benefits under environment change.	New Scale

Table 5: Definitions and Operational Variables of Constructs (continued)

Constructs	Definitions	Operational Definitions	Scale Sources
Independent variables			
Modern management innovation capability	An ability to support employee to create and improve their working techniques continuously using implementation technique and new arrangement in firm.	These changes become part of the firm as management innovation manifests itself through new management practices, processes, or structures.	New Scale
Dynamic business strategy application	An ability to set working procedure and direction by integrating operational tactics systematically to improve performance to be more effective.	A firm's competitive advantage lies in its ability to develop or obtain organizational resources and capabilities, take a strategic position in a market and implement a competitive strategy that takes into consideration the opportunities and threats in the external environment.	New Scale

Table 5: Definitions and Operational Variables of Constructs (continued)

Constructs	Definitions	Operational Definitions	Scale Sources
Independent variables			
Managerial technological implementation orientation	Emphasizing the importance of budget allocation for technology investment by supporting learning in technology and it can provide effective schema development.	Technology implementation is used in firm to make practicing more flexible and efficient which technology can be applied various management, and it can adapt working and improve quality of working.	New Scale
Valuable practice improvement	The development of operational planning, using various technique and procedure to consist with situation.	It is creating sale increase, margin improvements and reductions in managerial inefficiencies.	New Scale
New process development	Improvement of procedure schema and operation including using modern technology.	The firm's ability to develop new productive and technological processes.	New Scale

Table 5: Definitions and Operational Variables of Constructs (continued)

Constructs	Definitions	Operational Definitions	Scale Sources
Independent variables			
Working method creation	Designing new technique and operation continuously, including working method that is modern and quick, and using effective way and the least cost.	The firm's ability maintains a functional application in the management of firm operations with the aim of simplifying work towards greater efficiency.	New Scale
Firm Performance	The working result which can reach the goal and objective and it is continuously set to point out the marketing, financial and non-financial effectiveness.	The increasing high income, market share, and overall performance.	New Scale

Table 5: Definitions and Operational Variables of Constructs (continued)

Constructs	Definitions	Operational Definitions	Scale Sources
Antecedent Variables			
Continuous adaptation leadership	The ability in being a leader who can administrate to consist with situations and follow changed situation in the present and the future continuously.	Transformational leadership plays an important role in the transformational management in firms including drives a structure, policies and strategies.	New Scale
Dynamic knowledge management	Ability in integrating learning obviously by sharing information between employees in order to have the effective performance.	The firm's ability to associate with business success and with the capacity of adaptation of the company to the changing and challenging environment, where the threats can be turned into opportunities.	New Scale

Table 5: Definitions and Operational Variables of Constructs (continued)

Constructs	Definitions	Operational Definitions	Scale Sources
Independent variables			
Organizational resource readiness	An ability of budget allocation and technology investment, and it emphasizes the improvement in employee knowledge systematically which leads to better operational changing.	The degree of the completeness of the resources that is necessary to the business process.	New Scale
Best business experience	Gaining knowledge of individual performance which shows knowledge and competence in doing business, and the good business practices bring about learning experience and set the direction of operation in the present and in the future.	The degree of the outcome of the process, or reality of knowledge or wisdom of business that is observed, discovered, understands, and remembers that is the knowledge gained of person entrepreneurial judgment.	Dawes & Lee (1996)

Table 5: Definitions and Operational Variables of Constructs (continued)

Constructs	Definitions	Operational Definitions	Scale Sources
Independent variables			
Competitive pressure intensity	The higher level of contention pressure and it affects focusing on individual ability, skills and consistency in the operational improvement of firm management.	Environmental diversity consists of market diversity; amount of distinct products offered, client, competitor, and supplier diversification wherein measured by the number of competitor that firms in diversity markets are potential to make good decisions and perceive market risks.	Wang & Ahmed (2009)
Moderating variables			
Change climate	Working environment changing which encourage employee to learn and follow the changed situation in the present and the future.	The degree of the working environment changing which encourages employee to learn and follow the changed situation in the present and the future.	New Scale

Table 5: Definitions and Operational Variables of Constructs (continued)

Constructs	Definitions	Operational Definitions	Scale Sources
Control variables			
Firm capital	The firm's wealth, especially a large amount of money used for producing more wealth or for starting a new business. It was measured by the money or assets on investment operation in an firm.	The money or assets on investment operation in a firm Dummy variable 0 = less than 25 million Baht , 1 = more than 25 million Baht	Thatrak (2015) and Henklang (2014)
Major customer	Firm customers of firm are domestic business and international foreign business, and they are main customers of the firm.	Dummy variable 0 = Domestic, 1 = International	Andersen (1993); Buckley & Casson, (1998); O' Farrell, Wood, & Zheng (1998)

CHAPTER IV

RESULTS AND DISCUSSION

The previous chapter described the research methods which includes the sample selection and data collection procedure containing population and sample selection, data collection, and the test of non-response bias. Moreover, data analysis and hypotheses testing are described. This chapter is organized as follows: firstly, the respondent characteristics and descriptive statistics are explained for an increased understanding of the sample characteristics. Secondly, the hypothesis testing and the results are detailed. Finally, the summary of all hypotheses testing is also provided.

Respondent Characteristics

Respondent Characteristic

In this research, the electronic and electrical appliance business in Thailand is the unit of analysis; the key informants are the managing director or managing partner who have truly understand their business and can provide the reality knowledgeable about strategic transformational management capability, firm sustainability. The respondent characteristics are described by the demographic characteristics, including gender, age, marital status, education levels, work experience, average monthly income at present and current position

Table 6 shows details of key participant characteristics. The demographic characteristics of 167 respondents are as the following. Approximately 60.48 percent of respondents are male. The span of age of respondents is 41-50 years old (51.50 percent). The majority of respondents is married (62.28 percent). The majority of the education levels of key informant obtained is bachelor's degree or lowers (74.85 percent). Work experience is 10-20 years (37.72 percent). The average monthly income at present of respondents is less than 125,000 baht (44.31 percent). Finally, the majority of the respondents holds a position as managing director (63.50 percent).

Table 6: Key Participant Characteristics

Description	Categories	Frequency	Percentage
Gender	Male	101	60.48
	Female	66	39.52
	Total	167	100.00
Age	Less than 30 years old	12	7.19
	30 – 40 years old	28	16.77
	41 – 50 years old	86	51.50
	More than 50 years old	41	24.54
	Total	167	100.00
Marital Status	Single	49	29.34
	Married	104	62.28
	Divorced/Separated	14	8.38
	Total	167	100.00
Education levels	Bachelor's degree or lower	125	74.85
	Higher than Bachelor's degree	42	25.15
	Total	167	100.00
Work Experience	Less than 10 years	31	18.56
	10 – 20 years	63	37.72
	21 – 30 years	56	33.54
	More than 30 years	17	10.18
	Total	167	100.00
Average monthly income at present	Less than 125,000 Baht	74	44.31
	125,001 – 150,000 Baht	49	29.34
	150,001 – 175,000 Baht	32	19.16
	More than 175,000 Baht	12	7.19
	Total	167	100.00
Current Position	Managing director	106	63.50
	Managing partner	38	22.81
	Other	23	13.69
	Total	167	100.00

Firms Characteristics

Table 7 shows details of demographic of firm characteristics. The results of demographic characteristics of 167 electronic and electrical appliance business in Thailand illustrate that most respondents are a company limited (79.64 percent). The majority of the industrial category is household appliances electric (29.94 percent). The location of business is Bangkok (25.75 percent). The number of employees in the firm for most is 50-100 persons (37.13 percent), the amount of current operational capital is mostly less than 25,000,000 baht (49.70 percent), and the operation periods is mostly 10-15 years (38.32 percent). Most of the firm respondents have average revenue per year of less than 50,000,000 baht (48.50 percent). Furthermore, the major customer is found as 91.62 percent in domestic.

Table 7: Demographic of Firm Characteristics

Description	Categories	Frequency	Percentage
Type of business	Company	133	79.64
	Partnership	34	20.36
	Total	167	100.00
Industrial category	Household appliances Electric	50	29.94
	Light bulb	35	20.96
	Wire and electric cable	16	9.58
	Integrated circuit and electronics	18	10.78
	Amplifier	11	6.59
	Thermal insulation	6	3.59
	Other (breaker and electric motor)	31	18.56
	Total	167	100.00
Business Location	Northern Region	17	10.18
	Southern Region	15	8.98
	Eastern Region	35	20.96
	Western region	10	5.99
	Northeastern Region	25	14.97
	Central Region	22	13.17

Table 7: Demographic of Firm Characteristics (continued)

Description	Categories	Frequency	Percentage
	Bangkok	43	25.75
	Total	167	100.00
Number of employees	Less than 50 employees	60	35.93
	50-100 employees	62	37.13
	101-200 employees	32	19.16
	More than 200 employees	13	7.78
	Total	167	100.00
Operation capital	Less than 25,000,000 Baht	83	49.70
	25,000,000 - 50,000,000 Baht	46	27.54
	50,000,001 - 75,000,000 Baht	22	13.18
	More than 75,000,000 Baht	16	9.58
	Total	167	100.00
Operating periods	Less than 10 years	42	25.15
	10-15 years	64	38.32
	16-20 years	42	25.15
	More than 20 years	19	11.38
	Total	167	100.00
Firm average revenue per year	Less than 50,000,000 Baht	81	48.50
	50,000,000 – 100,000,000 Baht	34	20.36
	100,000,001 – 150,000,000 Baht	32	19.16
	More than 150,000,000 Baht	20	11.98
	Total	167	100.00
Major customer	Domestic	153	91.62
	Foreign	14	8.38
	Total	167	100.00

Correlation Analysis

In this research, the multicollinearity problem was of concern for the independent variable. Thus, the Pearson correlation for the bivariate analysis is utilized to describe the relationships between variables and to investigate the presence of a multicollinearity problem. A multicollinearity problem is indicated when independent variables have an inter-correlation exceeding 0.80 (Hair, Babin and Anderson, 2010). In this research, the bivariate correlation procedure is subject to a two-tailed test of statistical significance at two levels namely $p < 0.05$, and $p < 0.01$. The results of the correlation analysis of all variables in this research are shown in Table 8.

From Table 8 shows that the Pearson Correlation Coefficient of five dimensions of strategic transformational management capability have significant positive relationships with proactive operational planning competency, flexible organization structure focus, modern management innovation capability, dynamic business strategy application, and managerial technological implementation orientation is between = 0.544-0.771, $p < 0.01$. Meanwhile, VIF is more related to the statistical testing of interrelationships among independent variables in each equation. The maximum value of VIF in equations 1, 2, 3, 5, and 7 is 3.014 and is less than 10 thus multicollinearity problem is not concerned.

The five dimensions of strategic transformational management capability (independent variables) have a significant and positive relationship with dependent variables, including valuable practice improvement, new process development, working method creation, firm performance and firm sustainability ($r = 0.478-0.672$, $p < 0.01$). For the antecedents, these variables are significantly related to all dimensions of strategic transformational management capability ($r = 0.312-0.596$, $p < 0.01$). Therefore, the moderating effects of change climate has correlations with all variables between 0.433-0.730, $p < 0.01$. In addition to the relationships among variables, the correlations between independent variables in the conceptual model are in the range of 0.312-0.782, $p < 0.01$, which is lower than 0.8 (Hair et al., 2010). Thus, the results indicate no multicollinearity problems in this research.

Table 8: Descriptive Statistic and Correlation Matrix of Strategic Transformational Management Capability and All Constructs

	POPC	FOSF	MMIC	DBSA	MTIO	VPI	NPD	WMC	FP	FSUS	CAL	DKM	ORR	BBE	CPI	CC	FC
Mean	4.102	4.111	4.086	4.033	4.003	3.960	3.934	3.901	3.905	3.926	3.976	3.999	3.990	4.031	4.148	3.966	n/a
S.D.	.563	.590	.617	.583	.651	.625	.643	.645	.644	.633	.520	.560	.598	.614	.576	.614	n/a
POPC																	
FOSF	.595***																
MMIC	.698***	.664***															
DBSA	.591***	.544***	.614***														
MTIO	.544***	.555***	.771***	.672***													
VPI	.478***	.556***	.574***	.572***	.557***												
NPD	.562***	.538***	.655***	.577***	.672***	.720***											
WMC	.543***	.517***	.620***	.557***	.621***	.675***	.782***										
FP	.518***	.580***	.649***	.574***	.655***	.623***	.683***	.672***									
FSUS	.509***	.521***	.527***	.563***	.570***	.573***	.663***	.622***	.770***								
CAL	.474***	.545***	.507***	.535***	.538***	.614***	.633***	.578***	.615***	.534***							
DKM	.505***	.499***	.576***	.541***	.596***	.619***	.628***	.539***	.611***	.512***	.698***						
ORR	.473***	.558***	.518***	.514***	.492***	.652***	.599***	.595***	.586***	.562***	.681***	.674***					
BBE	.542***	.579***	.527***	.511***	.487***	.579***	.613***	.615***	.628***	.528***	.677***	.664***	.659***				
CPI	.404***	.330***	.364***	.367***	.312***	.398***	.477***	.413***	.380***	.352***	.517***	.447***	.546***	.617***			
CC	.479***	.518***	.433***	.478***	.435***	.500***	.585***	.557***	.631***	.532***	.597***	.648***	.619***	.730***	.530***		
FC	.101	.097	.022	.077	.080	.064	-.002	-.033	.026	.147	.046	.098	.109	.042	.027	.025	
MC	.090	.002	-.007	.003	-.035	-.007	.047	.047	.023	.091	.073	.017	.003	.029	.035	.006	.042

N = 167

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

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

Hypotheses Testing and Results

This research employs the Ordinary Least Squares (OLS) regression to investigate the hypothesized relationships. The regression equation is generated a linear combination of the independent variables that best explains and predicts the dependent variables. Furthermore, there are two dummy variables for firm capital and major customer, which are consistent with the data collection included in those equations for testing as follows. There are seventeen equations in this research. The results of descriptive statistics and hypothesis testing are discussed according to the regression equations as follows:

The Effects of Strategic Transformational Management Capability on Its Consequences

Figure 7 demonstrates the effect of strategic transformational management capability on its consequences based on Hypotheses 1(a-e), 2(a-e), 3(a-e), 4(a-e), and 5(a-e). The relationship in each hypothesis is proposed in a positive direction. These hypotheses are analyzed from the regression equations 1, 2, 3, 5 and 7.

Figure 7: The Relationships among Strategic Transformational Management Capability, Valuable Practice Improvement, New Process Development, Working Method Creation, Firm Performance and Firm Sustainability

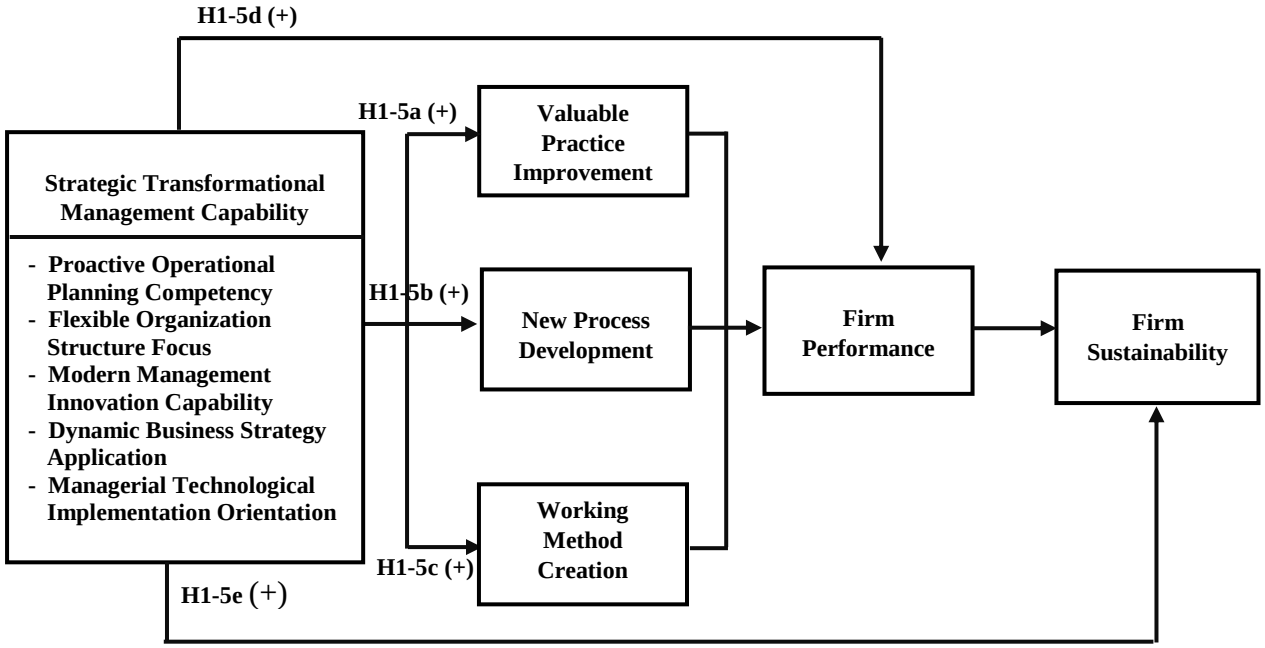


Table 9 indicates the correlations among each dimension of strategic transformational management capability and its consequences, including proactive operational planning competency, flexible organization structure focus, modern management innovation capability, dynamic business strategy application, and managerial technological implementation orientation. For the first dimension of strategic transformational management capability, the results identify the positive correlation between proactive operational planning competency and valuable practice improvement ($r = 0.478$, $p < 0.01$), new process development ($r = 0.562$, $p < 0.01$), working method creation ($r = 0.543$, $p < 0.01$), firm performance ($r = 0.518$, $p < 0.01$), and firm sustainability ($r = 0.509$, $p < 0.01$). For the second dimension of strategic transformational management capability, flexible organization structure focus is significantly and positively correlated to valuable practice improvement ($r = 0.556$, $p < 0.01$), new process development ($r = 0.538$, $p < 0.01$), working method creation ($r = 0.517$, $p < 0.01$), firm performance ($r = 0.580$, $p < 0.01$), and firm sustainability ($r = 0.521$, $p < 0.01$).
For the third dimension of strategic transformational management capability, modern management innovation capability is significantly and positively correlated to valuable practice improvement ($r = 0.574$, $p < 0.01$), new process development ($r = 0.655$, $p < 0.01$), working method creation ($r = 0.620$, $p < 0.01$), firm performance ($r = 0.649$, $p < 0.01$), and firm sustainability ($r = 0.527$, $p < 0.01$). For the fourth dimension of strategic transformational management capability, dynamic business strategy application is significantly and positively correlated to valuable practice improvement ($r = 0.572$, $p < 0.01$), new process development ($r = 0.577$, $p < 0.01$), working method creation ($r = 0.557$, $p < 0.01$), firm performance ($r = 0.574$, $p < 0.01$), and firm sustainability ($r = 0.563$, $p < 0.01$). For the fifth dimension of strategic transformational management capability, managerial technological implementation orientation is significantly and positively correlated to valuable practice improvement ($r = 0.557$, $p < 0.01$), new process development ($r = 0.672$, $p < 0.01$), working method creation ($r = 0.621$, $p < 0.01$), firm performance ($r = 0.655$, $p < 0.01$), and firm sustainability ($r = 0.570$, $p < 0.01$). From the findings in Table 9, all correlations are less than 0.80 as recommended by Hair et al. (2010). In addition to the correlations, Table 10 also points out the maximum value of VIF (Equation 1, 2, 3, 5 and 7) is 3.014, which is lower than the cut-off score of 10 (Hair et al., 2010). Both correlations and VIF ensure the non-existence of multicollinearity problems.

Table 9: Descriptive Statistics and Correlation Matrix of Each Dimension of Strategic Transformational Management Capability, and Its Consequences

	POPC	FOSF	MMIC	DBSA	MTIO	VPI	NPD	WMC	FP	FSUS
Mean	4.102	4.111	4.086	4.033	4.003	3.960	3.934	3.901	3.905	3.926
S.D.	.563	.590	.617	.583	.651	.625	.643	.645	.644	.633
POPC										
FOSF	.595***									
MMIC	.698***	.664***								
DBSA	.591***	.544***	.614***							
MTIO	.544***	.555***	.771***	.672***						
VPI	.478***	.556***	.574***	.572***	.557***					
NPD	.562***	.538***	.655***	.577***	.672***	.720***				
WMC	.543***	.517***	.620***	.557***	.621***	.675***	.782***			
FP	.518***	.580***	.649***	.574***	.655***	.623***	.683***	.672***		
FSUS	.509***	.521***	.527***	.563***	.570***	.573***	.663***	.622***	.770***	
FC	.101	.097	.022	.077	.080	.064	-.002	-.033	.026	.147
MC	.090	.002	-.007	.003	-.035	-.007	.047	.047	.023	.091

N = 167

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

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

The results of OLS regression analysis are explained in Table 10. Firstly, the results indicate that the proactive operational planning competency (the first dimension) is positively significant in relationship to new process development ($\beta_8 = 0.136$, $p < 0.10$) and working method creation ($\beta_{15} = 0.168$, $p < 0.05$). This is consistent with Mateljak and Mihanovic (2016) who found that organization which use operational planning, can obtain efficient and sustainable working method. Afterward, Bronzo, Oliveira, and McCormack (2012) found that operational planning can help companies achieve vertical and horizontal accordance within operational decisions and it improves work practice. In terms of proactive operational planning competency, it is crucial to the survival and development of organizations, so a firm has to deal with change more effectively (Perna and Snehota, 2011). Besides, operations planning is a multiple task and is a part of the managers' responsibility to plan and create activities relate to products, manufacturing processes,

technology selection, working method, and control systems (Hurtubise, Olivier, and Gharbi, 2004). Moreover, Wochner, Grunow, Staeblein, and Stolletz (2016) describe the sales and operations planning for ramp-ups and new process introductions in the automotive industry, and the first to provide quantitative decision support for the planning problem. ***Thus, Hypotheses 1b and 1c are supported***. Briefly, the higher the proactive operational planning competency is, the more likely that firm will gain greater (b) new process development and (c) working method creation.

However, these results do not find the significant effects of proactive operational planning competency on valuable practice improvement ($\beta_1 = 0.014$, $p > 0.10$), firm performance ($\beta_{22} = 0.063$, $p > 0.10$), and firm sustainability ($\beta_{29} = 0.102$, $p > 0.10$). In Thailand, the electronic and electrical appliance business are complex and difficult to understand because the pressure under rapid change in environment. Firms with this situation have to find the best way to deal with it. The results may also indicate that the electronic and electrical appliance business in Thailand may face global change pressure due to rapid change of technology and environment turbulence.

It is possible that too much fixed with rules administration; employees will restrict some changes in the organization that can affect the operation. This is consistent with Andersen (2000) who found that process comprehensiveness, a proxy for strategic planning, was associated with high performance in relatively stable industries, and low performance in dynamic industries. Thus, firm should design a new plan for operation that responds to need changes. It is consistent with the study of Kovacha, Hora, Manikas, and Pate (2015) who found that unpredictable and unstable markets are each negatively associated with firm performance, as firms are less able to accurately plan production or respond to changes in demand. Thome, Scavarda, Fernandezn, and Scavarda (2012) found that market uncertainty does not have relationship with performance. Moreover, the investigation of Olhager and Selldin (2007) estimated that sales and operations planning processes mitigation are not relevant to market uncertainty on firm performance. ***Thus, Hypotheses 1a, 1d and 1e are not supported.***

Secondly, the result finds that flexible organization structure focus (the second dimension) has positive significant effect on with valuable practice improvement ($\beta_2 = 0.167$, $p < 0.05$) and firm performance ($\beta_{23} = 0.168$, $p < 0.05$). This is consistent with Nadkarni and Naraynan (2007) who found that organizational flexibility has direct

operation of the organization that affects to long-term performance. Flexibility could provide a useful tool for both organizations and employees to enhance motivation, fulfillment and performance (Bal, De Jong, Jansen, and Bakker, 2012). Besides, flexibility is essential in strategic planning because it is valuable process which leads to practical improvement in organization (Ionescu, Cornescu, and Druica, 2012). Moreover, flexible work schedules may introduce new relationships. Relationships bring in new knowledge and foster performance (Henard and Szymanski, 2001; Coenen and Kok, 2014). Furthermore, flexible organization positively affect organization performance by decreasing absenteeism (Baltes, Briggs, Huff, andWright, 1999), decreasing turnover intentions (McNall, Masuda, and Nicklin, 2009), and improving practice (Ollo-Lopez, Bayo-Moriones, and Larraza-Kintana, 2010). Flexibility helps to make them feel proud and responsible for the organizational growth and performance. It positively affects them to contribute more towards business objectives positively (Krishna, Prakash, and Manikandan, 2015). ***Thus, Hypotheses 2a and 2d are supported.*** Summarily, the higher the flexible organization structure focus is, the more likely that firm will gain greater (a) valuable practice improvement and (d) firm performance.

However, this research does not find significant effect of flexible organization structure focus on new process development ($\beta_9 = 0.045$, $p > 0.10$), working method creation ($\beta_{16} = 0.079$, $p > 0.10$), and firm sustainability ($\beta_{30} = 0.134$, $p < 0.05$). The possible explanation of these relationships is relevant to the phenomenon of performance measurement to be used by organizations to ensure whether they are making the right decision or not. The electronic and electrical appliance businesses are complex and difficult to understand because the pressure under rapid change in environment as stated. If firms cannot manage it properly, it will lose the superior performance. From these reasons, it is hard for a firm to manage an uncertain environment that has an effect on organizational achievement and firm sustainability (Allal, 1999; Maitree, 1999). ***Thus, Hypotheses 2b, 2c and 2e are not supported.***

Thirdly, OLS regression results support that modern management innovation capability (the third dimension) has a positive impact on two consequences as new process development ($\beta_{10} = 0.224$, $p < 0.05$) and firm performance ($\beta_{24} = 0.160$, $p < 0.10$). The management of innovation in business organizations and the conversion of ideas into effective management practice are complex and challenging responsibilities confronting

business leaders. Management innovation assumes the implementation of those activities inside the real world organization and not the development of a scientific idea (Birkinshaw et al., 2008). This is consistent with Armbrustera, Bikfalvib, Kinkela, and Laya (2008) who stated that there are significant effects of management innovation on organizational performance. Furthermore, the study of Walker, Chen, and Aravind (2015) found that management innovations positively affect performance. It can improve the performance of firm. Moreover, the study of Lin, Su, and Higgins (2016) identified that management innovation facilitates changes including technical innovation thus improving organizational performance. Innovations can focus on different dimensions and so have different outcomes such as new products or services (product innovation), and also new production processes (process innovation) (Crossan and Apaydin, 2010) and new ways of organizing work (organizational innovation) (Fagerberg, 2004). The empirical studies support that management innovations are basically introduced to improve the efficiency of the organization's internal administrative processes (Walker, Damanpour, and Devece, 2010). Moreover, Walker et al. (2011) found the effect of management innovation by using organizational process as a mediator and used the organizational process to improve performance. Besides, the study of Mishra and Napier (2015) found that process improvements resulting from quality management innovation can reduce waste, which tends to reduce adverse environmental effects while yielding other operational efficiencies. ***Thus, Hypotheses 3b and 3d are supported***. Consequently, the higher the modern management innovation capability is, the more likely that firm will gain greater (b) new process development and (d) firm performance.

However, for the relationship between valuable practice improvement, working method creation, and firm sustainability the finding reveals a non-significant result (β_3 = 0.130, $p > 0.10$; β_{17} = 0.132, $p > 0.10$; β_{31} = -0.011, $p > 0.10$). Hence, it is possible that firm doesn't place importance on human capital and firm changing which is consistent with the research of Birkinshaw et al. (2008) who highlighted the key role of human agency in the development of new management practices, processes and structures. Qualified employees are an important attribute of companies and represent one of their key management innovation resources (Volberda et al., 2013; Zolnik & Sutter, 2010). ***Thus, Hypotheses 3a, 3c and 3e are not supported.***

Fourthly, the result indicates that dynamic business strategy application (the fourth dimension) has a positive effect on four outcomes: between valuable practice improvement ($\beta_4 = 0.229$, $p < 0.01$), working method creation ($\beta_{18} = 0.147$, $p < 0.10$), firm performance ($\beta_{25} = 0.156$, $p < 0.05$), and firm sustainability ($\beta_{32} = 0.233$, $p < 0.01$). This is consistent with Acquaah (2011) who demonstrated that the business strategies of cost leadership and differentiation are positively linked to performance. Moreover, the study of Campbell-Hunt (2000) identified that business strategy is considered one of the major determinants of performance. Strategies to enhance performance in business organizations are great importance to organization leaders in today's business environment (Ajagbe, Peter, Udo, Uduimoh, and Akpan, 2016). The empirical study supports that business strategy is an organization's commitment to particular products, markets, customers, competitive approaches, and creating method of business operation which leads to enhance practice and performance (Chungyalpa and Bora, 2015). Besides, this result shows the importance of aligning the business strategy and it explains organizational performance better (Ladib and Lakhal, 2015). Strategy is the outcome of decisions made to lead an organization with respect to environment, structure and processes that affect its organizational performance (Bozkurta, Kalkanb, and Arman, 2014). The study of Acquaah (2013) found that cost leadership strategy enables a firm to obtain a strong competitive position and increases performance through operational efficiency. Moreover, business strategies have a major role to play in enhancing organizational performance and sustainability (Ajagbe, Peter, Udo, Uduimoh, and Akpan, 2016). ***Thus, Hypotheses 4a, 4c, 4d and 4e are supported.*** Accordingly, The higher the dynamic business strategy application is, the more likely that firm will gain greater (a) valuable practice improvement, (c) working method creation, (d) firm performance and (e) firm sustainability.

However, dynamic business strategy application does not significantly affect new process development ($\beta_{11} = 0.108$, $p > 0.10$). Chen (2009) shows that the dynamic business strategy is related to the new process development. In addition, dynamic business strategy application focuses on heavy investment in development activities management and long-term change and the investment need to improve production. This is consistent with the research of Cooper, Edgett, and Kleinschmidt (2002) who found that firms that view process development as a strategic, long-term endeavor look for future market

opportunities. These firms also recognize and identify customers' real or unarticulated needs in the course of identifying new product strategies ***Thus, Hypothesis 4b is not supported.***

Finally, the research reveals that managerial technological implementation orientation is significant and positively associated with valuable practice improvement ($\beta_5 = 0.188$, $p < 0.10$), new process development ($\beta_{12} = 0.327$, $p < 0.01$), working method creation ($\beta_{19} = 0.298$, $p < 0.10$), firm performance ($\beta_{26} = 0.304$, $p < 0.01$), and firm sustainability ($\beta_{33} = 0.254$, $p < 0.05$). Technology is one of the major elements of intellectual capital in the process of creating competitiveness of an industrial cluster. The concept of technology does not only relate to the technology that embodies in the product but it is also associated with the knowledge or information of its use, application and the process in developing the product (Bembenek, Piecuch, and Ziolkowski, 2014). However, acceptance of technologies by employees is the subject of numerous studies. It is a significant factor, which contributes to the organization's competitiveness and increases in the efficiency of technology in the firm (Bhattacherjee and Premkumar, 2004; Premkumara and Bhattacherjeeb, 2008). This is consistent with Mitic, Nikolic, Jankov, Vukonjanski, and Terek (2017) who stated that managers should be aware of the importance of the acceptance of technologies on the part of employees as the way to realize the benefits of technologies, and overall improvement in organizational performance. It has been shown that within the literature that the practice of technological innovation is significantly associated with business performance (Rahmana, Yaacobb, & Radzic, 2016).

Moreover, the study of Stock and Tatikonda (2004) identified when an organization brings external technology integration to use in the organization, technology plays an important role in many operational activities, including new product development, new process development, and operational improvement. The importance of technology infrastructure and its effect on flexibility, competitive advantage and organizational performance are indicated as it is important for better operation (Gheysari, Rasli, Roghanian, and Jebur, 2012; Turner & Lankford, 2005). Besides, the result of Bembenek, Piecuch, and Ziolkowski (2014) found that technology as the theoretical and practical knowledge, skills, and artifacts can be used to develop products and services as well as their production and delivery systems. Moreover, technology implementation is used in organization to make practicing more flexible and efficient. In addition, technology can be

applied various management, and it can adapt working and improve quality of working (Henderson and Ruikar, 2010). Furthermore, implementing technologies embodied in production is an important issue that influences long-term strategy at any manufacturing plant. From a perspective of production strategy, technology is often seen as a source of core strategic competence for improving the reliability and attractiveness of products and/or reducing manufacturing cost (Garrido-Vega, Ortega Jimenez, de los Ríos, & Morita, 2015). Other features of technology that are repeatedly found to facilitate adoption include early demonstrable benefits, perceived ease of use, costs, the extent to which a system is interoperable with existing technology in the organization and fits in with existing organizational processes, and the extent to which it can be trialed (Yarbrough & Smith, 2007; Gagnon, Desmartis, Labrecque, Car, Pagliari, Pluye, Frémont, Gagnon, Tremblay, and Légaré, 2010). Besides, the study of Singh and Khanduja (2010) also found that one way to obtain advantage from production strategy in technology-intensive manufacturing industries is to exploit emergent product and process technologies to develop and introduce attractive new products. ***Thus, Hypotheses 5a, 5b, 5c, 5d and 5e are supported.*** Summarily, the higher the managerial technological implementation orientation is, the more likely that firm will gain greater (a) valuable practice improvement, (b) new process development, (c) working method creation, (d) firm performance and (e) firm sustainability.

For the control variables, firm capital has no significant relationship with valuable practice improvement ($\beta_6 = -0.065$, $p > 0.10$), new process development ($\beta_{13} = 0.037$, $p > 0.10$), firm performance ($\beta_{27} = -0.135$, $p > 0.10$), and firm sustainability ($\beta_{34} = 0.046$, $p > 0.10$). Therefore, the relationship among strategic transformational management capability, valuable practice improvement, new process development, firm performance, and firm sustainability are not influenced by firm capital. On the other hand, the control variables, firm capital have significant relationship with working method creation ($\beta_{20} = -0.220$, $p < 0.10$). Firm capital may affect the firm's capability to achieve competitive advantage and firm performance (Phokha and Ussahawanitchakit, 2011). The large firms have greater market power or positional advantages compared to those of their smaller rivals, and larger firms often have superior finances (Leiblein, Rener, and Dalsace, 2002). Firm capital does not have any effect on dependent variable. The researcher divided group of firm capital quite stably, and the firm capital has normal frequency. Therefore, the

firm capital does not has any effect on variables. It is because independent variable will have direct effect to dependent variable in case of there's no interrupted variables, and the major customers in these results are from domestic (Shieh, Yan, and Chen, 2008). Therefore, the relationship between strategic transformational management capability's dimensions and working method creation acceptance is affected by firm capital.

Likewise, major customer also illustrates no significant relationships with valuable practice improvement ($\beta_7 = -0.025$, $p > 0.10$), new process development ($\beta_{14} = 0.125$, $p > 0.10$), working method creation ($\beta_{21} = 0.138$, $p > 0.10$), firm performance ($\beta_{28} = 0.067$, $p > 0.10$), and firm sustainability ($\beta_{35} = 0.268$, $p > 0.10$). Hence, the relationship among strategic transformational management capability, valuable practice improvement, new process development, working method creation, firm performance, and firm sustainability are not influenced by major customer. The researches which had been reviewed were international researches while this study used Thai context, government policies and transition period, therefore, opinions or business trends may change. Moreover, different industries may affect the result of control variables to be insignificant.

Table 10: Results of Regression Analysis for the Effects of Strategic Transformational Management Capability on Its Consequences

Independent Variables	**Dependent Variables**				
	VPI	**NPD**	**WMC**	**FP**	**FSUS**
	H1-5a	**H1-5b**	**H1-5c**	**H1-5d**	**H1-5e**
	Equation1	**Equation2**	**Equation3**	**Equation5**	**Equation7**
Proactive Operational Planning Competency (POPC)	0.014 (0.078)	**0.136*** **(0.070)**	**0.168**** **(0.074)**	0.063 (0.070)	0.102 (0.078)
Flexible Organization Structure Focus (FOSF)	**0.167**** **(0.082)**	0.045 (0.075)	0.079 (0.077)	**0.168**** **(0.073)**	0.134 (0.082)
Modern Management Innovation Capability (MMIC)	0.130 (0.111)	**0.224**** **(0.102)**	0.132 (0.105)	**0.160*** **(0.100)**	-0.011 (0.112)
Dynamic Business Strategy Application (DBSA)	**0.229***** **(0.085)**	0.108 (0.078)	**0.147*** **(0.080)**	**0.156**** **(0.076)**	**0.233***** **(0.085)**

Table 10: Results of Regression Analysis for the Effects of Strategic Transformational Management Capability on Its Consequences (continued)

Independent Variables	Dependent Variables				
	VPI	**NPD**	**WMC**	**FP**	**FSUS**
	H1-5a	**H1-5b**	**H1-5c**	**H1-5d**	**H1-5e**
	Equation1	**Equation2**	**Equation3**	**Equation5**	**Equation7**
Managerial Technological Implementation Orientation (MTIO)	**0.188*** **(0.104)**	**0.327***** **(0.096)**	**0.298***** **(0.099)**	**0.304***** **(0.093)**	**0.254**** **(0.105)**
Firm Capital (FC)	-0.065 (0.133)	0.037 (0.123)	-0.220* (0.126)	-0.135 (0.139)	0.046 (0.134)
Major Customer (MC)	-0.025 (0.240)	0.125 (0.220)	0.138 (0.226)	0.067 (0.213)	0.268 (0.240)
Adjusted R^2	0.315	0.423	0.389	0.450	0.310
F-Statistic	11.926	18.381	16.122	20.373	11.663
Durbin-Watson	1.642	2.082	2.223	2.114	1.886
VIF	3.014	3.014	3.014	3.014	3.014

Beta coefficients with standard in parentheses. ***p<0.01, **p<0.05, *p<0.1

The Effects of Valuable Practice Improvement, New Process Development, Working Method Creation, and Firm Performance on Firm Sustainability

Also, Figure 8 demonstrates the relationships among valuable practice improvement, new process development, working method creation, firm performance, and firm sustainability are shown. This research proposes that valuable practice improvement, new process development, working method creation, and firm performance have an effect on firm sustainability in positive directions (Hypotheses 6-9). These hypotheses can be transformed into regression equations 4 and 6.

Figure 8: Results of the Effects of Valuable Practice Improvement, New Process Development, Working Method Creation, and Firm Performance on Firm Sustainability

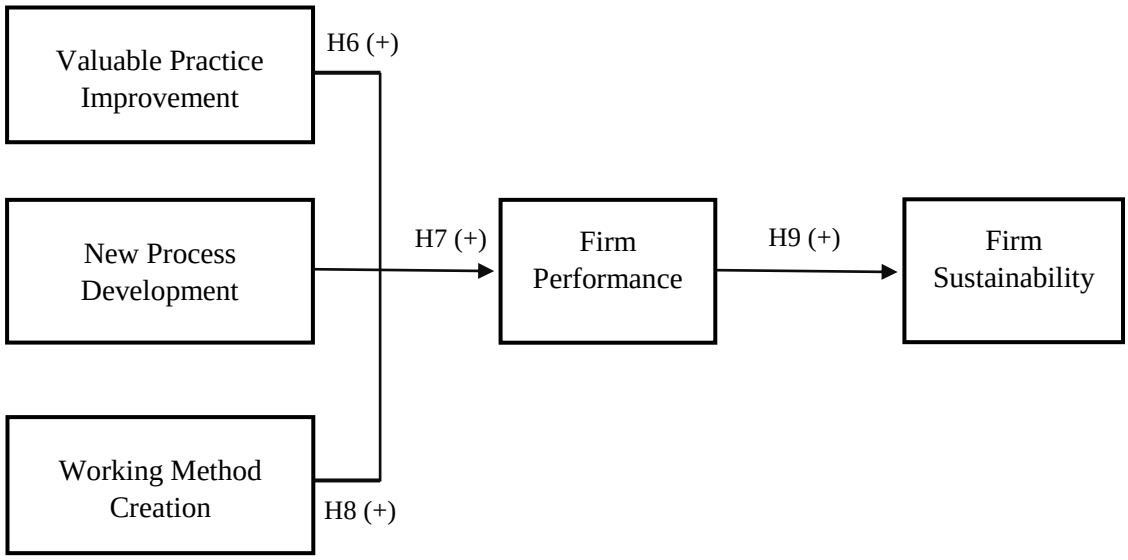


Table 11 illustrates the descriptive statistics and correlation matrix of strategic transformational management capability consequents and firm sustainability correlations among valuable practice improvement, new process development, working method creation, firm performance, and firm sustainability. The results show that the correlation between valuable practice improvement and firm performance ($r = 0.623$, $p < 0.01$). Similarly, new process development has a significant and positive correlation with firm performance ($r = 0.683$, $p < 0.01$). Working method creation has a significant and positive correlation with firm performance ($r = 0.672$, $p < 0.01$). Moreover, firm performance has a significant and positive correlation with firm sustainability ($r = 0.770$, $p < 0.01$). From the findings in Table 11, all correlations are less than 0.80 as recommended by Hair et al. (2010). In addition to the correlations, Table 12 also suggests the maximum value of VIF is 2.760, which is lower than the cut-off score of 10 (Hair et al., 2010). Both correlations and VIF ensure the non-existence of multicollinearity problems.

Table 11: Descriptive Statistics and Correlation Matrix of Strategic Transformational Management Capability Consequents and Firm Sustainability

	VPI	NPD	WMC	FP	FSUS
Mean	3.960	3.934	3.901	3.905	3.926
S.D.	.625	.643	.645	.644	.633
VPI					
NPD	.720***				
WMC	.675***	.782***			
FP	.623***	.683***	.672***		
FSUS	.573***	.663***	.622***	.770***	
FC	.064	-.002	-.033	.026	.147
MC	-.007	.047	.047	.023	.091

N = 167

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

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

Table 12 presents the results of the OLS regression analysis, which demonstrate that valuable practice improvement, new process development, and working method creation have effects on firm performance and firm performance has effect on firm sustainability.

The result indicates that valuable practice improvement has a strong and positive effect on firm performance (β_{36}= 0.209, $p < 0.01$). The finding is consistent with Jaca, Viles, Mateo, and Santos (2012) who found that improvement practices have been positively correlated with competitive advantage and firm performance. Moreover, the study of Bateman and Arthur (2002) and Bateman and Rich (2003) found that identify and further promote the importance of continuous, sustainable and systematic management of improvement activities and performance. For the relationship between practice improvement and financial performance, the finding indicates a positive significant result (Zhu, Liu, and Lai, 2016). Moreover, the study of Heckl, Moormann, and Rosemann (2010) found that improvement practices could help enhance operational performance and develop employee creativity. Therefore, results provide precise guidelines on improving

both operational performance and employee creativity through the adoption of relevant operational improvement practices and learning capabilities (Yang, Lee, and Cheng, 2017). Finally, operational improvement practices are mainly pertinent to process or quality improvement practices that affect on performance (Yang, Lee, & Cheng, 2017). ***Thus, Hypothesis 6 is supported.*** Consequently, the higher the valuable practice improvement is, the more likely that firm will gain greater firm performance.

The interesting finding indicated that new process development has a strong and positive effect on firm performance (β_{37}= 0.255, p < 0.01). The finding is consistent with Das, and Joshi (2012) who found an association between process innovativeness and firm performance and empirical studies connecting process development speed and performance (Langerak et al., 2008). As new process development helps firms to survive and succeed in dynamic markets, it is a crucial process in maintaining a company's competitive position (Chin, Tang, Yang, Wong, and Wang, 2009). Besides, Morris and Westbrook (1996) have observed that financial institutions gain competitive advantage by improving and changing processes, besides Das and Joshi (2007) have shown that process innovativeness is related to firm performance in technology-based service organizations.

Furthermore, the positive effects of new process development on manufacturing performance (Reichstein and Salter, 2006) and overall firm performance (Gopalakrishnan et al., 1999). To effectively control and improve new process development, firms must develop strong process efficiency capability and process optimization capability. Therefore, firms with strong process management capability means that the firms have the ability to control and improve new process development, thereby enabling them to benefit from time and cost savings (Tai, 2017). In addition, new process for development through evaluating concepts with the use of relevant performance such as the cost and time of a NPD project or the potential profit from a product can improve firm performance (Relicha and Pawlewski, 2017). ***Thus, Hypothesis 7 is supported***. Consequently, the higher the new process development is, the more likely that firm will gain greater firm performance.

The finding indicates that working method creation is also significant and positively related to firm performance (β_{38}= 0.307, p < 0.01). The finding is consistent with Shen and Lai (2014) who found that the quantitative analysis of performance and creative works shows a positive correlation, especially in flexibility and elaboration of creative thinking. It shows creative thinking performance that there is a positive correlation

(Shen and Lai, 2014). The study of Ijeoma and Nzewi (2016) found that proper creation and the utilization of work methods can have certain rewards for organizational performance and sustainability. Besides, use of creative methods enabled a clearer articulation of the concept of compassion and an inclusive approach to data generation and analysis, dissemination and the use of findings in practice. It could be argued that these methods enabled a deeper understanding about performance (Dewar, 2012).Moreover, creativity becomes one of the basic managerial competencies (Tahaa, Teja, and Sirkova, 2015). Considerable emphasis on creative work in organizations is linked to the fact that it has impact on the innovation performance and success of organizations (Sirkova, Taha, and Ferencova, 2014).***Thus, Hypothesis 8 is supported.*** Consequently, the higher the working method creation is, the more likely that firm will gain greater firm performance.

Moreover, the analyses indicate that firm performance has a strong and positive effect on firm sustainability (β_{41}= 0.741, $p < 0.01$). The finding is consistent with Klassen and Whybark (1999) who found a positive effect between sustainable manufacturing technologies and manufacturing performance (cost, quality, delivery, and flexibility). Sustainability has evaluated the role played by the approach of sustainability in driving initiatives adopted by firm managers and the ability of opportunities created from the firm as a result of these initiatives to drive superior performance (Gupta & Kumar, 2013). Therefore, the study of organizations increasingly sees sustainability as an important element of their business strategies and performance (Luzzini, Brandon-Jones, Brandon-Jones, and Spina, 2015). ***Thus, Hypothesis 9 is supported***. Consequently, the higher the firm performance is, the more likely that firm will gain greater firm sustainability.

Additionally, the result of control variables indicate that firm capital has no significant with firm performance (β_{39}= 0.150, $p > 0.10$), and firm sustainability (β_{42}= 0.094, $p > 0.10$). Thus, the consequence relationships of strategic transformational management capability are not influenced by firm capital. It shows that the firm's capital both in the short and long-term under environmental uncertainly cannot increase firm performance and sustainability.

Likewise, major customer illustrates no significant relationships with firm performance (β_{40}= -0.062, $p > 0.10$), and firm sustainability (β_{43}= 0.249, $p > 0.10$). Therefore, the consequence relationships of strategic transformational management

capability are not influenced by major customer. It shows that the major customer cannot increase firm performance and sustainability.

Table 12: Result of Regression Analysis for the Effects among Consequences of Strategic Transformational Management Capability

Independent Variables	**Dependent Variables**	
	FP	**FSUS**
	H6-8	**H9**
	Equation 4	**Equation 6**
Valuable Practice Improvement (VPI)	**0.209*** **	
	(0.079)	
New Process Development (NPD)	**0.255*** **	
	(0.094)	
Working Method Creation (WMC)	**0.307*** **	
	(0.089)	
Firm Performance (FP)		**0.741*** **
		(0.051)
Firm Capital (FC)	0.150	0.094
	(0.116)	(0.106)
Major Customer (MC)	-0.062	0.249
	(0.206)	(0.189)
Adjusted R^2	0.469	0.548
F-Statistic	30.380	68.050
Durbin-Watson	1.714	1.784
VIF	2.760	1.017

Beta coefficients with standard in parentheses. ***p<0.01, **p<0.05, *p<0.1

The Effect of the Antecedents of Strategic Transformational Management Capability, and the Moderating Role of Climate Change

Figure 9 illustrates the relationships among five antecedents: continuous adaptation leadership, dynamic knowledge management, organizational resource readiness, best business experience, and competitive pressure intensity which are proposed in Hypotheses 10(a-e), 11(a-e), 12(a-e), 13(a-e), 14(a-e). The relationship in each hypothesis

is proposed in a positive direction. These hypotheses can be transformed into the regression equation in Models 8, 9, 10, 11 and 12.

Figure 9: Results of the Effects of Antecedents of Strategic Transformational Management Capability

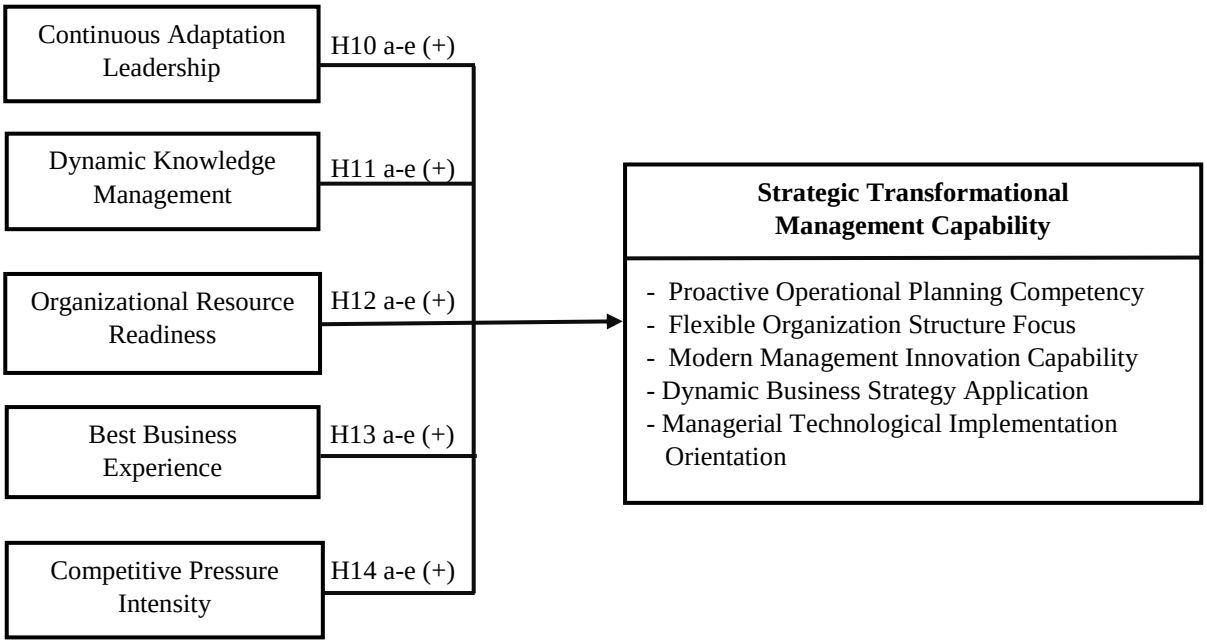


Table 13 describes the correlations among continuous adaptation leadership, dynamic knowledge management, organizational resource readiness, best business experience, and competitive pressure intensity, and each of five dimensions of strategic transformational management capability. It can be seen that all antecedents have a positive correlation with all dimensions of strategic transformational management capability. In detail, firstly continuous adaptation leadership is correlated with proactive operational planning competency ($r = 0.474$, $p < 0.01$), flexible organization structure focus ($r = 0.545$, $p < 0.01$), modern management innovation capability ($r = 0.507$, $p < 0.01$), dynamic business strategy application ($r = 0.535$, $p < 0.01$), and managerial technological implementation orientation ($r = 0.538$, $p < 0.01$). Secondly, dynamic knowledge management is correlated with proactive operational planning competency ($r = 0.505$,

$p < 0.01$), flexible organization structure focus ($r = 0.499$, $p < 0.01$), modern management innovation capability ($r = 0.576$, $p < 0.01$), dynamic business strategy application ($r = 0.541$, $p < 0.01$), and managerial technological implementation orientation ($r = 0.596$, $p < 0.01$). Thirdly, organizational resource readiness has a positive correlation with proactive operational planning competency ($r = 0.473$, $p < 0.01$), flexible organization structure focus ($r = 0.558$, $p < 0.01$), modern management innovation capability ($r = 0.518$, $p < 0.01$), dynamic business strategy application ($r = 0.514$, $p < 0.01$), and managerial technological implementation orientation ($r = 0.492$, $p < 0.01$). Fourthly, best business experience has a positive correlation with proactive operational planning competency ($r = 0.542$, $p < 0.01$), flexible organization structure focus ($r = 0.579$, $p < 0.01$), modern management innovation capability ($r = 0.527$, $p < 0.01$), dynamic business strategy application ($r = 0.511$, $p < 0.01$), and managerial technological implementation orientation ($r = 0.487$, $p < 0.01$). Lastly, competitive pressure intensity has a positive correlation with proactive operational planning competency ($r = 0.404$, $p < 0.01$), flexible organization structure focus ($r = 0.330$, $p < 0.01$), modern management innovation capability ($r = 0.364$, $p < 0.01$), dynamic business strategy application ($r = 0.367$, $p < 0.01$), and managerial technological implementation orientation ($r = 0.312$, $p < 0.01$). Moreover, a major of correlations are less than 0.80 as recommended by Hair et al. (2010). In addition to the correlations, Table 14 also suggests that the maximum value of VIF is 2.537, which is lower than the cut-off score of 10 (Hair et al., 2010). Both correlations and the VIF ensure the non-existence of multicollinearity problems.

Table 13: Descriptive Statistic and Correlation Matrix of Each Dimension of Strategic Transformational Management Capability, Its Antecedents, and Change Climate

	CAL	DKM	ORR	BBE	CPI	CC	POPC	FOSF	MMIC	DBSA	MTIO	FC
Mean	3.976	3.999	3.990	4.031	4.148	3.966	3.976	3.999	3.990	4.031	4.148	n/a
S.D.	.520	.560	.598	.614	.576	.614	.520	.560	.598	.614	.576	n/a
CAL												
DKM	.698***											
ORR	.681***	.674***										
BBE	.677***	.664***	.659***									
CPI	.517***	.447***	.546***	.617***								
CC	.597***	.648***	.619***	.730***	.530***							
POPC	.474***	.505***	.473***	.542***	.404***	.479***						
FOSF	.545***	.499***	.558***	.579***	.330***	.518***	.595***					
MMIC	.507***	.576***	.518***	.527***	.364***	.433***	.698***	.664***				
DBSA	.535***	.541***	.514***	.511***	.367***	.478***	.591***	.544***	.614***			
MTIO	.538***	.596***	.492***	.487***	.312**	.435**	.544***	.555***	.771***	.672***		
FC	.046	.098	.109	.042	.027	.025	.101	.097	.022	.077	.080	
MC	.073	.017	.003	.029	.035	.006	.090	.002	-.007	.003	-.035	.042

N = 167

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

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

The results of OLS regression analysis are explained in Table 14. Firstly, the results indicate that continuous adaptation leadership has a significant positive effect on flexible organization structure focus ($\beta_{51} = 0.180$, $p < 0.10$), and dynamic business strategy application ($\beta_{65} = 0.171$, $p < 0.10$). It is generally known that leadership is generally highlighted as one of the key drivers of the implementation of organizational change (Higgs and Rowland, 2011; Liu, 2010). Kaslow, Falender, and Grus (2012) claimed that leadership competence is essential as the change process is challenging, with predictable obstacles that can be overcome. The study of Nguyen, Mia, Winata, and Chong (2017) found that a transformational leadership style has a direct and positive effect on managerial performance (Nguyen, Mia, Winata, and Chong, 2017). Moreover, among various

leadership perspectives, transformational leadership is often linked with managerial effectiveness during organizational change (Bass & Riggio, 2006; Pawar & Eastman, 1997). Furthermore, continuous adaptation leadership can affect all three facets of management innovation such as management practices, processes, and structures (Vaccaro et al., 2012). Actually, transformational leadership's potential is to address issues that are relevant in the modern, changing, and uncertain work environment is the main reason for its positive influence (Lim and Ployhart, 2004). ***Thus, hypotheses 10b and 10d are supported***. The higher the continuous adaptation leadership is, the more likely that firm will gain greater (b) flexible organization structure focus and (d) dynamic business strategy application.

Nevertheless, it has no significant relationship with proactive operational planning competency (β_{44} = -0.012, p > 0.10), modern management innovation capability (β_{58} = 0.053, p > 0.10), and managerial technological implementation orientation (β_{72} = 0.133, p > 0.10). However, the empirical research of Banwet and Deshmukh (2006) found that performance of organizational learning not only depends on transformational organizational vision, but also depends on highly money and other resources of firm. Possibly, continuous adaptation leadership must construct moral support and stimulate employees to have the intention and participate in the process of consistently producing new ideas in order to enhance creativity useful to the development of the firm's innovation (Soliman, 2011). Moreover, the managerial leadership and style could not affect proactive operational planning competency, modern management innovation capability, and managerial technological implementation orientation. ***Hence, hypotheses 10a, 10c and 10e are not supported.***

Secondly, the finding from this research describes that dynamic knowledge management has a positive effect on four dimensions of proactive operational planning competency (β_{45} = 0.179, p < 0.10), modern management innovation capability (β_{59} = 0.309, p < 0.01), dynamic business strategy application (β_{66} = 0.248, p < 0.05), and managerial technological implementation orientation (β_{73} = 0.408, p < 0.01). Accordingly, knowledge management is commonly regarded as an important organizational resource and its effective management is a key to the success of organizations that wish to enhance employee productivity (Ou, Davison, and Wong, 2016). Moreover, knowledge management implementation success depends on harmony between infrastructure and

process capabilities, including technology, culture and organizational structure (Lee & Lan, 2011), and knowledge management is positively related to firm innovativeness (Chen, Huang, and Hsiao, 2010). The study of Bitkowska (2010) found that creation of knowledge management processes plays an important role in the overall management system. Moreover, it is also supported by the study of Marqués and Simón (2005) who found that knowledge management can be seen as an organizational innovation involving changes in strategy and management practices of firms. Therefore, proper knowledge management is imperative for many organizations due to its significance for attaining organizational outcomes (Birasnav, 2014)**.** ***Thus, hypotheses 11a, 11c, 11d and 11e are supported***. The higher the dynamic knowledge management is, the more likely that firm will gain greater (a) proactive operational planning competency, (c) modern management innovation capability, (d) dynamic business strategy application, and (e) managerial technological implementation orientation. Whereas, dynamic knowledge management has no significant positive relationship with flexible organization structure focus ($\beta_{52} = 0.012$, $p > 0.10$). Knowledge is not a simple and concrete subject and ideas concerning knowledge management cannot be discussed. Without the introduction of epistemological themes, knowledge management can be used in the wrong way (Schipper, 2005). ***Therefore, hypothesis 11b is not supported.***

Thirdly, the finding from this research indicates that organizational resource readiness positively affects on flexible organization structure focus ($\beta_{53} = 0.258$, $p < 0.01$), and modern management innovation capability ($\beta_{60} = 0.167$, $p < 0.10$). This is consistent with Rodriguez-Pinto et al. (2012) who noted that firms with superior management, and research and development resources, attain superior new product performance when an early-entry strategy is adopted. Organizational resource readiness is an influence of organizational performance, and it helps achieve competitive advantage for the firm. Accordingly, Tshibalo, Mariga, Mokoena, and Mzini (2015) confirmed that resources are further moved to where they need to be in order to accomplish the company's objectives that will bring it closer to its strategic goal. Moreover, the organizational context for successful change implementation may also pertain to organizational readiness for change (Cinite, Duxbury, and Higgins, 2009). Weiner (2009) suggested that organizational readiness for change describes the factors associated with effective program implementation and a function of individual and organizational values and perceptions. If

the firms have readiness in resource and potential, the firms will enable their advantage to generate new opportunity. ***Thus, hypotheses 12b and 12c are supported***. The higher the organizational resource readiness is, the more likely that firm will gain greater (a) proactive operational planning competency, and (c) modern management innovation capability.

However, organizational resource readiness has no effect on proactive operational planning competency ($\beta_{46} = 0.035$, $p > 0.10$), dynamic business strategy application ($\beta_{67} = 0.078$, $p > 0.10$), and managerial technological implementation orientation ($\beta_{74} = 0.000$, $p > 0.10$). Thus, these firms are not interested in other change such as continuous working improvement, change mindset adaptation, and new business idea generation (Ciabuschi, Perna, and Snehota, 2012). ***Therefore, hypotheses 12a, 12d and 12e are not supported.***

Fourthly, hypothesis 13 shows that best business experience has a positive significant relationship with proactive operational planning competency ($\beta_{47} = 0.190$, $p < 0.10$), and flexible organization structure focus ($\beta_{54} = 0.307$, $p < 0.01$). This is consistent with West and Noel (2009) who found that the depth of experience in the same type of strategic approach can make a difference in organizational development. Accordingly, business experience can impact business development and operations (Tanriverdi and Venkatraman, 2005) and improve an owner's understanding of the role of strategy in business success. Greater experience can enhance both strategic decision making and improve internal organization and procedures (Harris, Gibson, and McDowell, 2015). Besides, other research has shown that previous related business experience can impact business development and operations (Tanriverdi and Venkatraman, 2005) and improves an owner's understanding of the role of strategy in business success (Harris, Gibson, and McDowell, 2014). Moreover, the result of Pett and Wolff (2007) found that business experience can positively impact firm performance. ***Thus, hypotheses 13a and 13b are supported***. The higher the best business experience is, the more likely that firm will gain greater (a) proactive operational planning competency and (b) flexible organization structure focus.

Nevertheless, the finding also exhibited that best business experience has no significant influence on modern management innovation capability ($\beta_{61} = 0.141$, $p > 0.10$), dynamic business strategy application ($\beta_{68} = 0.080$, $p > 0.10$), and managerial

technological implementation orientation (β_{75} = 0.086, p > 0.10). Business experience in very different backgrounds and age of people in the organization, may affect reduced efficiency of the learning process in organizations (Gyimah, 2012). The results are not the same as in the past so business experience usefulness must be adapted to the proactive organizational development implementation, integrative performance and they may cause confusion or uncertainty in the practice (Kittikunchotiwut, Ussahawanitchakit, and Pratoom, 2013). ***Therefore, hypotheses 13c, 13d and 13e are not supported.***

Finally, the finding asserts that competitive pressure intensity has a significant, positive effect on proactive operational planning competency (β_{48} = 0.150, p < 0.10), modern management innovation capability (β_{62} = 0.135, p<0.10), and dynamic business strategy application (β_{69} = 0.173, p < 0.05). The result of O'Reilly and Tushman (2008) found that in competitive environments firms must seek to develop dynamic capabilities that will enable them to leverage explorative and exploitative learning capabilities. Moreover, strategic management indicates that competitive intensity might have a positive impact on innovation success because it creates opportunities, and stimulates creativeness, that leads to better business performance (Jermias, 2006). However, when competition is intense, firms will need to engage in risk-taking and proactive activities to adapt (Cui, Griffith, and Cavusgil, 2005). Therefore, opportunities are conditioned in the ordinary environment that may help a company achieve strategic competitiveness (Hitt, Ireland, and Hoskisson, 2001). Besides, greater competitive intensity improves the business results if the company operates for innovation in management, marketing, and products (García-Zamora et al., 2013). ***Thus, hypotheses 14a, 14c and 14d are supported***. The higher the competitive pressure intensity is, the more likely that firm will gain greater (a) proactive operational planning competency, (c) modern management innovation capability, and (d) dynamic business strategy application.

However, the relationships among competitive pressure intensity, flexible organization structure focus (β_{55} = -0.041, p > 0.10), and managerial technological implementation orientation (β_{76} = 0.075, p > 0.10) are not found. A firm's external business environment can influence internal processes by creating or obstructing strategic matches, which could interfere with internal processes that are designed to help the firm attain better performance (Chen, Wang, Nevo,Benitez-Amado, and Kou, 2015). These suggest that firms that focus on strategy their business do not depend on competitive

intensity. The consequence may occur from business type, environmental change, technology competency (Ndubisi, 2007). ***Therefore, hypotheses 14b and 14e are not supported.***

For the control variables, firm capital has no significant relationship among the antecedent variables with proactive operational planning competency (β_{49} = 0.157, p > 0.10), flexible organization structure focus (β_{56} = 0.139, p > 0.10), modern management innovation capability (β_{63} = -0.026, p > 0.10), dynamic business strategy application (β_{70} = 0.155, p > 0.10), and managerial technological implementation orientation (β_{77} = 0.167, p > 0.10). So, the relationships among strategic transformational management capability's dimension and its antecedents are not influenced by firm capital.

Likewise, major customer illustrates no significant relationships with proactive operational planning competency (β_{50} = 0.249, p > 0.10), flexible organization structure focus (β_{57} = -0.119, p > 0.10), modern management innovation capability (β_{64} = -0.118, p > 0.10), dynamic business strategy application (β_{71} = -0.152, p > 0.10), and managerial technological implementation orientation (β_{78} = -0.303, p > 0.10). Consequently, the relationships among strategic transformational management capability's dimension and its antecedents are not influenced by major customer. Result can be interpreted that an integrated performance measure system is not effect by strategic transformational management capability.

Table 14: Result of Regression Analysis for the Effects of Strategic Transformational Management Capability and its Antecedents

Independent Variables	Dependent Variables				
	POPC	**FOSF**	**MMIC**	**DBSA**	**MTIO**
	H10-14a	**H10-14b**	**H10-14c**	**H10-14d**	**H10-14e**
	Equation 8	**Equation 9**	**Equation 10**	**Equation 11**	**Equation 12**
Continuous Adaptation Leadership (CAL)	-0.012 (0.110)	**0.180* (0.096)**	0.053 (0.099)	**0.171* (0.094)**	0.133 (0.098)
Dynamic Knowledge Management (DKM)	**0.179* (0.103)**	0.012 (0.094)	**0.309*** (0.097)**	**0.248** (0.098)**	**0.408*** (0.096)**
Organizational Resource Readiness (ORR)	0.035 (0.107)	**0.258*** (0.093)**	**0.167* (0.091)**	0.078 (0.097)	0.000 (0.095)
Best Business Experience (BBE)	**0.190* (0.107)**	**0.307*** (0.093)**	0.141 (0.096)	0.080 (0.097)	0.086 (0.095)
Competitive Pressure Intensity (CPI)	**0.150* (0.090)**	-0.041 (0.079)	**0.135* (0.081)**	**0.173** (0.082)**	0.075 (0.080)
Firm Capital (FC)	0.157 (0.140)	0.139 (0.123)	-0.026 (0.126)	0.155 (0.128)	0.167 (0.125)
Major Customer (MC)	0.249 (0.232)	-0.119 (0.219)	-0.118 (0.225)	-0.152 (0.229)	-0.303 (0.223)
Adjusted R^2	0.215	0.398	0.364	0.346	0.377
F-Statistic	7.476	16.700	14.566	13.560	15.366
Durbin-Watson	2.075	2.011	2.103	2.096	1.955
VIF	2.537	2.537	2.537	2.537	2.537

Beta coefficients with standard in parentheses. ***p<0.01, **p<0.05, *p<0.1

The Moderating Effects of Change Climate

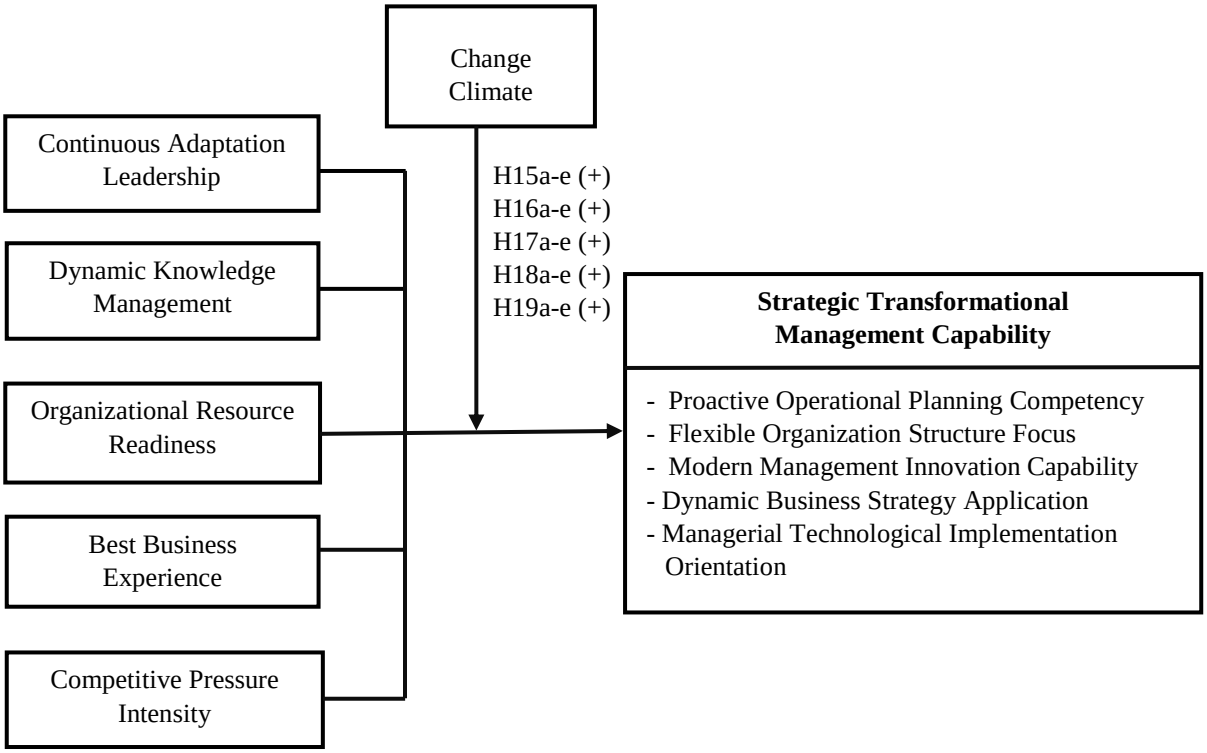
Figure 10 demonstrates the relationship of the moderating effects of change climate on among each dimension of strategic transformational management capability and its consequences (continuous adaptation leadership, dynamic knowledge management, organizational resource readiness, best business experience, and competitive pressure intensity) are based on Hypotheses 15(a-e)-19(a-e), and in equations 13-17.

The correlation coefficient between change climate and five dimensions of strategic transformational management capability and its consequences (proactive

operational planning competency, flexible organization structure focus, modern management innovation capability, dynamic business strategy application, and managerial technological implementation orientation) are 0.479, 0.518, 0.433, 0.478, and 0.435, respectively, and are shown in Table 13. All pairs of change climate and every dimension of strategic transformational management capability are significant and less than 0.80 as recommended by Hair et al. (2010).

In the correlation with five antecedence variables, change climate has a positive correlation with continuous adaptation leadership ($r = 0.597$, $p < 0.01$), dynamic knowledge management ($r = 0.648$, $p < 0.01$), organizational resource readiness ($r = 0.619$, $p < 0.01$), best business experience ($r = 0.730$, $p < 0.01$), and competitive pressure intensity ($r = 0.530$, $p < 0.01$), Moreover, the majority of correlations is less than 0.80 as recommended by Hair et al. (2010). In addition, the maximum value of VIF (equations 13-17) is 3.934, which is lower than the cut-off score of 10 (Hair et al., 2010). Thus, the multicollinearity problems are irrelevant.

Figure 10: Results of the Moderating Effects of Change Climate



Next, Table 15 exhibits the multiple regression analysis of the moderating effects of change climate on the relationship among five antecedents and each of five dimensions of strategic transformational management capability is as follows.

Firstly, the results indicate that continuous adaptation leadership that related to proactive operational planning competency (β_{85} = 0.046, p > 0.10), flexible organization structure focus (β_{98}= -0.020, p > 0.10), modern management innovation capability (β_{111}= 0.053, p > 0.10), dynamic business strategy application (β_{124}= -0.083, p > 0.10), and managerial technological implementation orientation (β_{137}= 0.061, p > 0.10) have not significance via climate change. The results may be explained that different leadership's opinions on climate change are different interpretation on strategic management (Sprengel and Busch, 2010; Weinhofer and Hoffmann, 2010). Moreover, the strategy is difficult to plan under an uncertain climate; so, it is hard for a firm to reach its goal. ***Thus, Hypotheses 15a, 15b, 15c, 15d, and 15e are not supported.***

Secondly, the result also presents the non-significant of moderating effects of change climate on relationship between dynamic knowledge management that related to proactive operational planning competency (β_{86} = 0.102, p > 0.10), flexible organization structure focus (β_{99}= 0.053, p > 0.10), modern management innovation capability (β_{112}= -0.083, p > 0.10), dynamic business strategy application (β_{125} = 0.008, p > 0.10), and managerial technological implementation orientation (β_{138} = -0.099, p > 0.10). These findings show that change climate does not enhance better knowledge and understanding of strategic transformational management capability because awareness and knowledge of the impacts of climate change on knowledge management, and of the need for developing and implementing adaptation strategies is growing (Cleaves, 2014; Keenan, 2015). Moreover climate change is a technically complex, science oriented issue that is associated with increased uncertainty. A commonly identified barrier to adaptation is the presence of knowledge gaps (or knowledge deficits) that is relative to climate change impacts, adaptation options, and uncertainty (Nelson, Williamson, Macaulay, and Mahony, 2016). ***Thus, Hypotheses 16a, 16b, 16c, 16d, and 16e are not supported.***

Similarly, the results indicate that organizational resource readiness is not related to proactive operational planning competency (β_{87} = 0.035, p > 0.10), flexible organization structure focus (β_{100}= 0.139, p > 0.10), modern management innovation capability

(β_{113}= -0.155, p > 0.10), dynamic business strategy application (β_{126} = 0.065, p > 0.10), and managerial technological implementation orientation (β_{139} = -0.181, p > 0.10). Firm strategies were addressed that change climate include traditional strategic risk management approaches, technological innovation, entrepreneurship and corporate social responsibility, the organizational strategies were not involved with transformational management (Wittneben, Okereke, Banerjee, and Levy, 2012). However, this evidence indicates that firm resource readiness is not necessary for transformational management. ***Thus, Hypotheses 17a, 17b, 17c, 17d, and 17e are not supported.***

Moreover, the finding also exhibited that climate change has a significant, moderating effects in relationship between best business experience that related to modern management innovation capability (β_{114}= 0.224, p < 0.10) and managerial technological implementation orientation (β_{140} = 0.259, p < 0.05). This is consistent with Dionne, Yammarino, Atwater, and Spangler (2004) who found that employees realize about transformational change in firm and they will more concern about the situation in order to find the way to develop their firm competitiveness for making it relate to suitable competitive environment. The change climate of an organization tends to be positively related to technological implementation and organizational commitment to firm performance (Wallace, Hunt, and Richards, 1996). As the climate change exposure increases, companies move from stable and anticipatory strategies to proactive strategies which affect to firm performance (Bui andVilliers, 2017). Therefore, in order to handle the impacts of climate change, it is a requirement for organizations to recognize the changing climate (Stechemesser, Bergmann, and Guenther, 2015), and to interpret the connected threats and opportunities for the organizations (CDP, 2015). In the same way, a first area where change climate ushered in important change at the firm level is in the improvement of technologies and innovation (Howard-Grenville, Buckle, Hoskins, & George, 2014). This allows organizations to gain competitiveness by entering new markets and developing new strategy and management (Pinkse and Kolk, 2012). ***Thus, Hypothesis 18c and 18e are supported.*** On the other hand, climate change does not moderate the relationship between best business experience and proactive operational planning competency (β_{88}= -0.063, p > 0.10), flexible organization structure focus (β_{101}= -0.077, p > 0.10), and dynamic business strategy application (β_{127}= 0.105, p > 0.10). ***Thus, Hypotheses 18a, 18b, and 18d are not supported.***

Finally, the results indicate that competitive pressure intensity that related to proactive operational planning competency (β_{89} = 0.025, p > 0.10), flexible organization structure focus (β_{102} = -0.020, p > 0.10), modern management innovation capability (β_{115} = -0.078, p > 0.10), dynamic business strategy application (β_{128} = -0.035, p > 0.10), and managerial technological implementation orientation (β_{141} = -0.007, p > 0.10) have not significance via climate change. These results may interpret that climate change is not the role of moderator between competitive pressure intensity and five dimensions of strategic transformational management capability. ***Thus, Hypotheses 19a, 19b, 19c, 19d, and 19e are not supported.***

For the control variables, firm capital has no significant influences on the moderating effect of climate change on the relationship among strategic transformational management capability's antecedent, proactive operational planning competency (β_{90} = 0.163, p > 0.10), flexible organization structure focus (β_{103} = 0.157, p > 0.10), modern management innovation capability (β_{116} = -0.025, p > 0.10), dynamic business strategy application (β_{129} = 0.169, p > 0.10), and managerial technological implementation orientation (β_{142} = 0.155, p > 0.10). Thus, the moderating effect of climate change on the relationships among strategic transformational management capability's dimension and it antecedents are not influenced by firm capital.

Likewise, major customer illustrate no significant relationships with moderating effect of climate change on the relationship among strategic transformational management capability's antecedent, proactive operational planning competency (β_{91} = 0.270, p > 0.10), flexible organization structure focus (β_{104} = -0.118, p > 0.10), modern management innovation capability (β_{117} = -0.160, p > 0.10), dynamic business strategy application (β_{130} = -0.193, p > 0.10), and managerial technological implementation orientation (β_{143} = -0.346, p > 0.10). Therefore, the moderating effect of climate change on the relationships among strategic transformational management capability's dimension and its antecedents are not influenced by major customer. The researches which had been reviewed were international researches while this study used Thai context, government policies and transition period, therefore, opinions or business trends may change. Moreover, different industries may affect the result of control variables to be insignificant.

Table 15: Result of Regression Analysis for the Effects of Moderator of Relationship between Strategic Transformational Management Capability and its Antecedents

Independent Variables	Dependent Variables				
	POPC	**FOSF**	**MMIC**	**DBSA**	**MTIO**
	H15-19a	**H15-19b**	**H15-19c**	**H15-19d**	**H15-19e**
	Equation 13	**Equation 14**	**Equation 15**	**Equation 16**	**Equation 17**
Continuous Adaptation Leadership (CAL)	0.005 (0.116)	**0.211**** **(0.102)**	0.034 (0.104)	0.135 (0.106)	0.074 (0.102)
Dynamic Knowledge Management (DKM)	**0.183*** **(0.110)**	0.000 (0.100)	**0.299***** **(0.103)**	**0.226**** **(0.105)**	**0.408***** **(0.100)**
Organizational Resource Readiness (ORR)	0.029 (0.120)	**0.200*** **(0.105)**	**0.210*** **(0.107)**	0.080 (0.110)	0.115 (0.105)
Best Business Experience (BBE)	0.162 (0.123)	**0.281***** **(0.108)**	**0.190*** **(0.110)**	0.090 (0.113)	0.123 (0.108)
Competitive Pressure Intensity (CPI)	**0.168*** **(0.101)**	-0.038 (0.089)	0.082 (0.091)	**0.169*** **(0.093)**	0.040 (0.089)
Climate Change (CC)	0.016 (0.108)	0.096 (0.094)	-0.118 (0.096)	0.030 (0.099)	-0.106 (0.094)
CAL x CC	0.046 (0.119)	-0.020 (0.104)	0.053 (0.106)	-0.083 (0.109)	0.061 (0.104)
DKM x CC	0.102 (0.111)	0.053 (0.097)	-0.083 (0.099)	0.008 (0.102)	-0.099 (0.097)
ORR x CC	0.035 (0.127)	0.139 (0.111)	-0.155 (0.114)	0.065 (0.117)	-0.181 (0.111)
BBE x CC	-0.063 (0.128)	-0.077 (0.112)	**0.224*** **(0.114)**	0.105 (0.117)	**0.259**** **(0.112)**
CPI x CC	0.025 (0.090)	-0.020 (0.079)	-0.078 (0.081)	-0.035 (0.083)	-0.007 (0.079)
Firm Capital (FC)	0.163 (0.142)	0.157 (0.125)	-0.025 (0.127)	0.169 (0.130)	0.155 (0.125)
Major Customer (MC)	0.270 (0.233)	-0.118 (0.223)	-0.160 (0.227)	-0.193 (0.233)	-0.346 (0.223)
Adjusted R^2	0.208	0.391	0.366	0.332	0.391
F-Statistic	4.358	9.187	8.358	7.353	9.202
Durbin-Watson	2.079	2.105	2.042	2.046	1.939
VIF	3.934	3.934	3.934	3.934	3.934

Beta coefficients with standard in parentheses. ***p<0.01, **p<0.05, *p<0.1

Summary

This chapter describes the results of data analysis in this research. There are two main parts. The first part indicates the respondent and sample characteristics. These characteristics are explained by a percentage. Also, correlations among all variables are analyzed and presented as a correlation matrix and are explained by using descriptive statistics such as mean and standard deviation. Another section points out the results and discussions of hypotheses testing in combination with specific correlation analysis and multiple regression analysis. The results reveal that dynamic business strategy application and managerial technological implementation orientation (dimensions 4 and 5) are important determinants to yield higher valuable practice improvement, new process development, working method creation, firm performance, and firm sustainability. Interestingly, it can be stated that proactive operational planning competency is the additional influence of new process development and working method creation to earn greater positive outcomes. In addition, flexible organization structure focus has a strong positive impact valuable practice improvement and firm performance. Moreover, modern management innovation capability has a positive impact new process development and firm performance.

As to antecedents, dynamic knowledge management and competitive pressure intensity are the top two most influential determinants of strategic transformational management capability. For the moderating role of climate change, it does not play a moderating role very well in order to impact the relationships among all antecedents and each dimension of strategic transformational management capability. However, it moderates well on the relationship between best business experience and managerial technological implementation orientation.

In conclusion, the result of 19 hypotheses testing showed that five hypotheses are fully supported (Hypotheses 5, 6, 7, 8, and 9), ten hypotheses are partially supported (Hypotheses 1, 2, 3, 4, 10, 11, 12, 13, 14, and 18), and four hypotheses are unsupported (Hypotheses 15, 16, 17, and 19). The summary of result of hypotheses testing is presented in Table 16.

Table 16: A Summary of the Results of Hypotheses Testing

Hypotheses	Description of Hypothesized Relationship	Results
1a	The higher the proactive operational planning competency is, the more likely that firm will gain greater valuable practice improvement.	Not Supported
1b	The higher the proactive operational planning competency is, the more likely that firm will gain greater new process development.	Supported
1c	The higher the proactive operational planning competency is, the more likely that firm will gain greater working method creation.	Supported
1d	The higher the proactive operational planning competency is, the more likely that firm will gain greater firm performance.	Not Supported
1e	The higher the proactive operational planning competency is, the more likely that firm will gain greater firm sustainability.	Not Supported
2a	The higher the flexible organization structure focus is, the more likely that firm will gain greater valuable practice improvement.	Supported
2b	The higher the flexible organization structure focus is, the more likely that firm will gain greater new process development.	Not Supported
2c	The higher the flexible organization structure focus is, the more likely that firm will gain greater working method creation.	Not Supported
2d	The higher the flexible organization structure focus is, the more likely that firm will gain greater firm performance.	Supported

Table 16: A Summary of the Results of Hypotheses Testing (continued)

Hypotheses	Description of Hypothesized Relationship	Results
2e	The higher the flexible organization structure focus is, the more likely that firm will gain greater firm sustainability.	Not Supported
3a	The higher the modern management innovation capability is, the more likely that firm will gain greater valuable practice improvement.	Not Supported
3b	The higher the modern management innovation capability is, the more likely that firm will gain greater new process development.	Supported
3c	The higher the modern management innovation capability is, the more likely that firm will gain greater working method creation.	Not Supported
3d	The higher the modern management innovation capability is, the more likely that firm will gain greater firm performance.	Supported
3e	The higher the modern management innovation capability is, the more likely that firm will gain greater firm sustainability.	Not Supported
4a	The higher the dynamic business strategy application is, the more likely that firm will gain greater valuable practice improvement.	Supported
4b	The higher the dynamic business strategy application is, the more likely that firm will gain greater new process development.	Not Supported
4c	The higher the dynamic business strategy application is, the more likely that firm will gain greater working method creation.	Supported

Table 16: A Summary of the Results of Hypotheses Testing (continued)

Hypotheses	Description of Hypothesized Relationship	Results
4d	The higher the dynamic business strategy application is, the more likely that firm will gain greater firm performance.	Supported
4e	The higher the dynamic business strategy application is, the more likely that firm will gain greater firm sustainability.	Supported
5a	The higher the managerial technological implementation orientation is, the more likely that firm will gain greater valuable practice improvement.	Supported
5b	The higher the managerial technological implementation orientation is, the more likely that firm will gain greater new process development.	Supported
5c	The higher the managerial technological implementation orientation is, the more likely that firm will gain greater working method creation.	Supported
5d	The higher the managerial technological implementation orientation is, the more likely that firm will gain greater firm performance.	Supported
5e	The higher the managerial technological implementation orientation is, the more likely that firm will gain greater firm sustainability.	Not Supported
6	The higher the valuable practice improvement is, the more likely that firm will gain greater firm performance.	Supported
7	The higher the new process development is, the more likely that firm will gain greater firm performance.	Supported

Table 16: A Summary of the Results of Hypotheses Testing (continued)

Hypotheses	Description of Hypothesized Relationship	Results
8	The higher the working method creation is, the more likely that firm will gain greater firm performance.	Supported
9	The higher the firm performance is, the more likely that firm will gain greater firm sustainability.	Supported
10a	The higher the continuous adaptation leadership is, the more likely that firm will gain greater proactive operational planning competency.	Not Supported
10b	The higher the continuous adaptation leadership is, the more likely that firm will gain greater flexible organization structure focus.	Supported
10c	The higher the continuous adaptation leadership is, the more likely that firm will gain greater modern management innovation capability.	Not Supported
10d	The higher the continuous adaptation leadership is, the more likely that firm will gain greater dynamic business strategy application.	Supported
10e	The higher the continuous adaptation leadership is, the more likely that firm will gain greater managerial technological implementation orientation.	Not Supported
11a	The higher the dynamic knowledge management is, the more likely that firm will gain greater proactive operational planning competency.	Supported
11b	The higher the dynamic knowledge management is, the more likely that firm will gain greater flexible organization structure focus.	Not Supported

Table 16: A Summary of the Results of Hypotheses Testing (continued)

Hypotheses	Description of Hypothesized Relationship	Results
11c	The higher the dynamic knowledge management is, the more likely that firm will gain greater modern management innovation capability.	Supported
11d	The higher the dynamic knowledge management is, the more likely that firm will gain greater dynamic business strategy application.	Supported
11e	The higher the dynamic knowledge management is, the more likely that firm will gain greater managerial technological implementation orientation.	Supported
12a	The higher the organizational resource readiness is, the more likely that firm will gain greater (a) proactive operational planning competency.	Not Supported
12b	The higher the organizational resource readiness is, the more likely that firm will gain greater flexible organization structure focus.	Supported
12c	The higher the organizational resource readiness is, the more likely that firm will gain greater modern management innovation capability.	Supported
12d	The higher the organizational resource readiness is, the more likely that firm will gain greater dynamic business strategy application.	Not Supported
12e	The higher the organizational resource readiness is, the more likely that firm will gain greater managerial technological implementation orientation.	Not Supported
13a	The higher the best business experience is, the more likely that firm will gain greater proactive operational planning competency.	Supported

Table 16: A Summary of the Results of Hypotheses Testing (continued)

Hypotheses	Description of Hypothesized Relationship	Results
13b	The higher the best business experience is, the more likely that firm will gain greater flexible organization structure focus.	Supported
13c	The higher the best business experience is, the more likely that firm will gain greater modern management innovation capability.	Not Supported
13d	The higher the best business experience is, the more likely that firm will gain greater dynamic business strategy application.	Not Supported
14c	The higher the competitive pressure intensity is, the more likely that firm will gain greater modern management innovation capability.	Supported
14d	The higher the competitive pressure intensity is, the more likely that firm will gain greater dynamic business strategy application.	Supported
14e	The higher the competitive pressure intensity is, the more likely that firm will gain greater managerial technological implementation orientation.	Not Supported
15a	The relationships between continuous adaptation leadership and proactive operational planning competency will be positively moderated by change climate.	Not Supported
15b	The relationships between continuous adaptation leadership and flexible organization structure focus will be positively moderated by change climate.	Not Supported

Table 16: A Summary of the Results of Hypotheses Testing (continued)

Hypotheses	Description of Hypothesized Relationship	Results
15c	The relationships between continuous adaptation leadership and modern management innovation capability will be positively moderated by change climate.	Not Supported
15d	The relationships between continuous adaptation leadership and dynamic business strategy application will be positively moderated by change climate.	Not Supported
15e	The relationships between continuous adaptation leadership and managerial technological implementation orientation will be positively moderated by change climate.	Not Supported
16a	The relationships between dynamic knowledge management and proactive operational planning competency will be positively moderated by change climate.	Not Supported
16b	The relationships between dynamic knowledge management and flexible organization structure focus will be positively moderated by change climate.	Not Supported
16c	The relationships between dynamic knowledge management and modern management innovation capability will be positively moderated by change climate.	Not Supported
16d	The relationships between dynamic knowledge management and dynamic business strategy application will be positively moderated by change climate.	Not Supported

Table 16: A Summary of the Results of Hypotheses Testing (continued)

Hypotheses	Description of Hypothesized Relationship	Results
16e	The relationships between dynamic knowledge management and managerial technological implementation orientation will be positively moderated by change climate.	Not Supported
17a	The relationships between organizational resource readiness and proactive operational planning competency will be positively moderated by change climate.	Not Supported
17b	The relationships between organizational resource readiness and flexible organization structure focus will be positively moderated by change climate.	Not Supported
17c	The relationships between organizational resource readiness and modern management innovation capability will be positively moderated by change climate.	Not Supported
17d	The relationships between organizational resource readiness and dynamic business strategy application will be positively moderated by change climate.	Not Supported
17e	The relationships between organizational resource readiness and managerial technological implementation orientation will be positively moderated by change climate.	Not Supported
18a	The relationships between best business experience and proactive operational planning competency will be positively moderated by change climate.	Not Supported

Table 16: A Summary of the Results of Hypotheses Testing (continued)

Hypotheses	Description of Hypothesized Relationship	Results
18b	The relationships between best business experience and flexible organization structure focus will be positively moderated by change climate.	Not Supported
18c	The relationships between best business experience and modern management innovation capability will be positively moderated by change climate.	Supported
18d	The relationships between best business experience and dynamic business strategy application will be positively moderated by change climate.	Not Supported
18e	The relationships between best business experience and managerial technological implementation orientation will be positively moderated by change climate.	Supported
19a	The relationships between competitive pressure intensity and proactive operational planning competency will be positively moderated by change climate.	Not Supported
19b	The relationships between competitive pressure intensity and flexible organization structure focus will be positively moderated by change climate.	Not Supported
19c:	The relationships between competitive pressure intensity and modern management innovation capability will be positively moderated by change climate.	Not Supported

Table 16: A Summary of the Results of Hypotheses Testing (continued)

Hypotheses	Description of Hypothesized Relationship	Results
19d	The relationships between competitive pressure intensity and dynamic business strategy application will be positively moderated by change climate.	Not Supported
19e	The relationships between competitive pressure intensity and managerial technological implementation orientation will be positively moderated by change climate.	Not Supported

CHAPTER V

CONCLUSION

The previous chapter reveals respondent characteristics, descriptive statistics, correlation matrix, and the results of hypotheses testing. Therefore, this chapter purposes to describe the conclusion, the theoretical and managerial contributions, limitations and suggestions for further research.

This research examines the relationships among strategic transformational management capability, valuable practice improvement, new process development, working method creation, firm performance, and firm sustainability in the electronic and electrical appliance business in Thailand. The newly proposed dimensions of strategic transformational management capability are comprised of proactive operational planning competency, flexible organization structure focus, modern management innovation capability, dynamic business strategy application, and managerial technological implementation orientation. Meanwhile, continuous adaptation leadership, dynamic knowledge management, organizational resource readiness, best business experience, and competitive pressure intensity are assigned as the antecedents of strategic transformational management capability. Moreover, change climate is designed to moderate the relationship among the antecedent and each of five dimensions of strategic transformational management capability.

It can be seen that the key research question is “how does strategic transformational management capability affect firm sustainability?” Besides, the specific questions are as follows: 1) How does strategic transformational management capability have an effect on valuable practice improvement, new process development, working method creation, firm performance and firm sustainability? 2) How do valuable practice improvement, new process development, and working method creation have an effect on firm performance? 3) How does firm performance have an effect on firm sustainability? 4) How do the five antecedents (continuous adaptation leadership, dynamic knowledge management, organizational resource readiness, best business experience, and competitive pressure intensity) have an effect on each dimension of strategic transformational management capability? And, 5) How do

continuous adaptation leadership, dynamic knowledge management, organizational resource readiness, best business experience, and competitive pressure intensity have an effect on each dimension of strategic transformational management capability via moderating effect of change climate?

The main objective of this research is to examine the relationships among strategic transformational management capability (proactive operational planning competency, flexible organization structure focus, modern management innovation capability, dynamic business strategy application, and managerial technological implementation orientation) on firm sustainability. The specific objectives are as follows: 1) to investigate the influence of strategic transformational management capability (proactive operational planning competency, flexible organization structure focus, modern management innovation capability, dynamic business strategy application, and managerial technological implementation orientation) on valuable practice improvement, new process development, working method creation, firm performance, and firm sustainability, 2) to examine the impact of valuable practice improvement, new process development, working method creation on firm performance, 3) to examine the impact of firm performance on firm sustainability, 4) to investigate the effect of antecedences (continuous adaptation leadership, dynamic knowledge management, organizational resource readiness, best business experience, and competitive pressure intensity) on each dimension of strategic transformational management capability, and 5) to examine the impact of continuous adaptation leadership, dynamic knowledge management, organizational resource readiness, best business experience, and competitive pressure intensity on each dimension of strategic transformational management capability via moderating effect of change climate.

This research applies three theories to draw the conceptual model, including the dynamic capabilities theory, contingency theory, and strategic behavior theory to explain relationships among all of the variables in the conceptual model. The population sample of this research is provided by the electronic and electrical appliance business in Thailand chosen from the database of the Department of Business Development (www.dbd.go.th), accessed in December, 2016. The selected key informant was managing director or managing partner position for each selected the electronic and electrical appliance business in Thailand. For the data collection, the self-administrated

questionnaire was employed to gather the data. The questionnaires were distributed directly to 656 firms for data collection. The mail survey resulted in 175 returned mailings with 167 usable; 26.17% response rate. The instrument was developed from various literature reviews, and its validity and reliability was tested using a pre-test. Statistics used in this research were applied to multiple regression analysis for hypothesis testing.

According to the first specific research question, and objective the result indicates that proactive operational planning competency (the first dimension) positively affects new process development and working method creation. In addition, flexible organization structure focus (the second dimension) has a positive effect on valuable practice improvement and firm performance. Moreover, modern management innovation capability (the third dimension) has a positive impact on two consequences including new process development and firm performance. Furthermore, dynamic business strategy application (the fourth dimension) significantly and positively influences four outcomes: valuable practice improvement, working method creation, firm performance, and firm sustainability. Lastly, managerial technological implementation orientation positively affects valuable practice improvement, new process development, working method creation, firm performance, and firm sustainability.

For the second specific research question, and objective the result indicates that valuable practice improvement, new process development, and working method creation have strong positive effect on firm performance. In the third specific research question, and objective the finding presents that firm performance has strong positive effect on firm sustainability.

With reference to the fourth specific research question, and objective it is found that continuous adaptation leadership support has a positive impact on flexible organization structure focus and dynamic business strategy application. In addition, dynamic knowledge management positively affects proactive operational planning competency, modern management innovation capability, dynamic business strategy application, and managerial technological implementation orientation. As can be seen from finding, organizational resource readiness has a positive effect on proactive operational planning competency and modern management innovation capability.

Moreover, best business experience positively affects proactive operational planning competency and flexible organization structure focus. Besides, competitive pressure intensity has significant positive influences on proactive operational planning competency, modern management innovation capability, and dynamic business strategy application.

Summary of Result

In conclusion, the strategic transformational management capability is essential for positive outcomes. In particular, managerial technological implementation orientation to be essential components of the strategic transformational management capability leading to increase valuable practice improvement, new process development, working method creation, and firm performance. In addition, flexible organization structure focus, modern management innovation capability, dynamic business strategy application, and managerial technological implementation orientation affect firm performance. Moreover, valuable practice improvement, new process development, and working method creation positively affect firm performance. Hence, firm performance positively affects firm sustainability. The antecedent variables of strategic transformational management capability are dynamic knowledge management and competitive pressure intensity which seems to be the most influential determinants of strategic transformational management capability. The results are summarized and shown in Table 17 and Figure 11 below.

Table 17: Summary of Results in All Hypotheses Testing

Research Questions	Hypothesis	Results	Conclusions
(1) How does strategic transformational management capability have an effect on valuable practice improvement, new process development, working method creation, firm performance, and firm sustainability?	H1a-e	- Proactive operational planning competency positively influences new process development and working method creation.	Partially supported
	H2a-e	- Flexible organization structure focus has a positive effect on valuable practice improvement and firm performance.	Partially supported
	H3a-e	- Modern management innovation capability has a positive effect on new process development and firm performance.	Partially supported
	H4a-e	- Dynamic business strategy application positively affects valuable practice improvement, working method creation, firm performance, and firm sustainability.	Partially supported
	H5a-e	- Managerial technological implementation orientation has a positively affects valuable practice improvement, new process development, working method creation, firm performance, and firm sustainability.	Fully supported

Table 17: Summary of Results in All Hypotheses Testing (continued)

Research Questions	Hypothesis	Results	Conclusions
(2) How do valuable practice improvement, new process development, and working method creation have an effect on firm performance?	H6 H7 H8	-Valuable practice improvement has a strong positive effect on firm performance. -New process development has a strong positive effect on firm performance -Working method creation has a strong positive effect on firm performance	Fully supported
(3) How does firm performance have an effect on firm sustainability?	H9	-Firm performance has a strong positive effect on firm sustainability.	Fully supported
(4) How do the five antecedents (continuous adaptation leadership, dynamic knowledge management, organizational resource readiness, best business experience and competitive pressure intensity) have an effect on each dimension of strategic transformational management capability?	H10a-e H11a-e	-Continuous adaptation leadership has a positively effect on flexible organization structure focus and dynamic business strategy application. -Dynamic knowledge management positively affects proactive operational planning competency, modern management innovation capability, dynamic business strategy application, and managerial technological implementation orientation.	Partially supported Partially supported

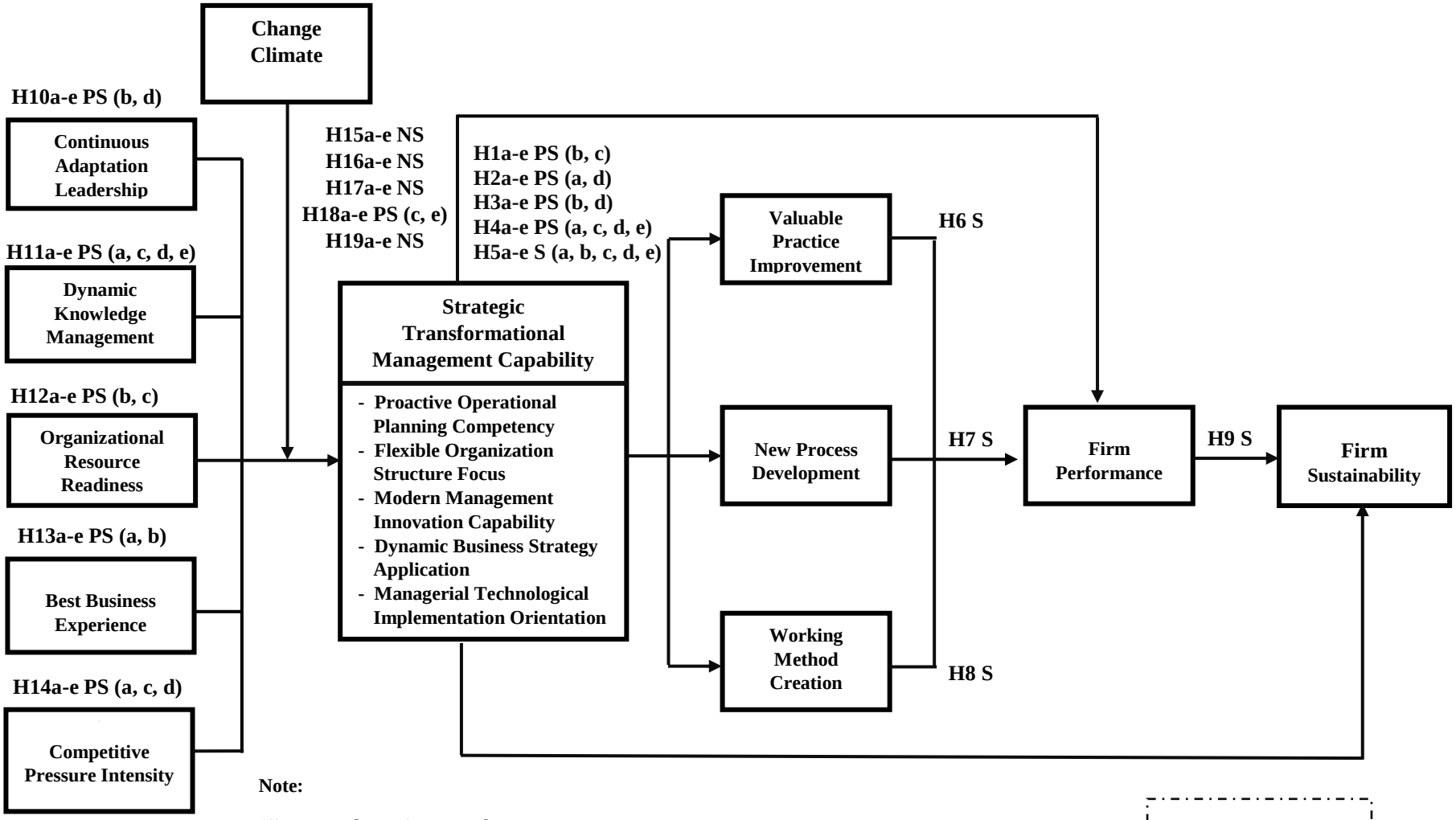
Table 17: Summary of Results in All Hypotheses Testing (continued)

Research Questions	Hypothesis	Results	Conclusions
(4) How do the five antecedents (continuous adaptation leadership, dynamic knowledge management, organizational resource readiness, best business experience and competitive pressure intensity) have an effect on each dimension of strategic transformational management capability?	H12a-e	-Organizational resource readiness has a positive effect on proactive operational planning competency and modern management innovation capability.	Partially supported
	H13a-e	-Best business experience positively affects proactive operational planning competency and flexible organization structure focus.	Partially supported
	H14a-e	-Competitive pressure intensity positively affects proactive operational planning competency, modern management innovation capability, and dynamic business strategy application.	Partially supported

Table 17: Summary of Results in All Hypotheses Testing (continued)

Research Questions	Hypothesis	Results	Conclusions
(5) How do continuous adaptation leadership, dynamic knowledge management, organizational resource readiness, best business experience and competitive pressure intensity have an effect on each dimension of strategic transformational management capability via moderating effect of change climate?	H15a-e H16a-e H17a-e H18a-e H19a-e	- Climate change moderates the relationships among best business experience, modern management innovation capability and managerial technological implementation orientation.	Partially supported

Figure 11: Model Summary of the Results of the Hypothesis Testing



Theoretical and Managerial Contributions

This research investigated strategic transformational management capability variables which affect to firm sustainability. The results show adapting of business management such as human resources, performance improvement, work processes improvement can be used to study and apply to gain more understanding in terms of relationship management and create understanding of relevant various factors and consistent with theoretical concepts.

As a result, managerial technological implementation orientation and dynamic business strategy application are important variables which create new useful working methods and processes, and have good effect to performance. In addition, if the managing director consider and adopt the suggestion to use in firm's policy and plan, firm has better performance and firm sustainability.

Theoretical Contribution

This research proposes the relationships among new dimensions of strategic transformational management capability, antecedent variables, and its consequences. This research proposes three theoretical contributions. Firstly, this research proposes five dimensions of strategic transformational management capability, namely proactive operational planning competency, flexible organization structure focus, modern management innovation capability, dynamic business strategy application, and managerial technological implementation orientation.

Secondly, strategic transformational management capability is examined in terms of quantitative methods by the collected data from the electronic and electrical appliance business in Thailand that are chosen because the electronic and electrical appliance business must improve or create their management in many ways in order to effective management together with adapting themselves to follow the rapid change.

Finally, this research attempts to gain a better understanding of the relationship between antecedents and consequences of strategic transformational management capability by applying the dynamic capabilities theory, contingency theory, and strategic behavior theory to explain the relationships.

Theoretical development is based on dynamic capabilities theory of the firm that concerns the concept of competitive advantage, which continues to achieve firm sustainability. This research adopts dynamic capabilities theory, contingency theory, and strategic behavior theory to explain this conceptual model. Dynamic capabilities theory and strategic behavior theory are implemented to explain the ability of firms which could respond to change that occur in its internal and external environment and would enable to be competitive advantage and would lead to greater performance in long term. The contingency theory describes competence of the firm to change or adapt to the environment that was crucial to consistency between the environment and the infrastructure. Similarly, consideration in terms of the factors that influenced the strategic transformational management capability is used to describe the antecedents of the conceptual model.

Managerial Implication

This research provides a new aspect for the process of strategic transformational management capability by five dimensions (proactive operational planning competency, flexible organization structure focus, modern management innovation capability, dynamic business strategy application, and managerial technological implementation orientation). From the interesting results mentioned earlier, there are five managerial implications for managing director or managing partner of firm.

Firstly, this research also helps managing director or managing partner firm to understand the importance of the antecedent and consequences of strategic transformational management capability that enables firm to sustainability. A manager should focus on the component of strategic transformational management capability, especially dynamic business strategy application and managerial technological implementation orientation because they are important for firm sustainability. Moreover, strategic transformational management capability leads to important outcomes which are valuable practice improvement, new process development, and working method creation, firm performance, and firm sustainability. Also interestingly, this research provides a better understanding of how the firm can encourage the strategic transformational management capability. These findings reveal that firm

should focus on continuous adaptation leadership, dynamic knowledge management, organizational resource readiness, best business experience, and competitive pressure intensity as internal and external factors supporting strategic transformational management capability.

Secondly, the results indicate the managerial technological implementation orientation which has a positive influence on valuable practice improvement, new process development, working method creation, firm performance, and firm sustainability. In this research, managerial technological implementation orientation refers to emphasizing the importance of budget allocation for technology investment by supporting learning in technology and it can provide effective schema development. Managing director or managing partner should concentrate on the importance of budget allocation for technology investment, and implement modern technology continuously by supporting the employee's learning and understanding modern technology, which ultimately leads firm to enhance their performance.

Thirdly, from the results that indicate the dynamic business strategy application is positively related to valuable practice improvement, working method creation, firm performance, and firm sustainability. Therefore, dynamic business strategy application, in this research, is defined as ability to set working procedure and direction by integrating operational tactics systematically to improve performance to be more effective. Managing director or managing partner should analyze environment and event which will support strategy to be consistent with situation, and these will enhance the more effective operation of the firm.

Fourthly, guidelines for the development and maintenance of firm performance and firm sustainability are from the result of the implementation of valuable practice improvement, new process development, working method creation. Therefore, managing director or managing partner should develop the new technique of operation which is different from its competitors, and congruence with changeable environment. Furthermore, managing director or managing partner should adapt and implement modern method which leads firm to achieve its goal faster and enhances firm performance.

Fifthly, dynamic knowledge management positively related to proactive operational planning competency, modern management innovation capability, dynamic

business strategy application, and managerial technological implementation orientation. In this research, dynamic knowledge management refers to ability in integrating learning obviously by sharing information between employees in order to have the effective performance. Furthermore, managing director or managing partner should focus on good knowledge management that supports knowledge integration by emphasizing knowledge exchanging and sharing between the leader and employees which will lead firm to operate successfully.

Finally, two dimensions of strategic transformational management capability have most significance for consequence. Therefore, managing director or managing partner should place important on managerial technological implementation orientation and dynamic business strategy application which will improve performance and enhance operation effectively.

Limitations and Future Research Directions

Limitations

In this research, some limitations are provided as follows: firstly, this research is cross section data. Cross-sectional study is one-time collecting data and no follow-up result, and it cannot describe variable of the time as well as long-term research. Therefore, the result is not clear and need further study.

Secondly, many companies are closed and transition a new address that the evidence is supported by a large numbers of returned mails.

Thirdly, in this research. There is a few study of external factors. External factors are important because the environment always changes and it has influence on business. This may be a limitation of this research.

Fourthly, researcher uses only single industry is event management business, the result of this research is derived from only the electronic and electrical appliance business in Thailand. Thus, the results of this research may be narrow as lacking generalized concepts for both other business and countries.

In addition, fifthly the moderating effect of climate change, the most hypotheses have no significant positive influence on the relationship between five antecedents of strategic transformational management capability on each dimension of

strategic transformational management capability. As a result, the new variable should be reviewed and taken into consideration for future research.

Future Research Directions

From the aforementioned limitations can suggest for the future research. Firstly, future we collect the data by using time series, we can get clear result and it forecasted plan and the decision of the firm.

Secondly, for the future research, the researchers should look forward to collect data from other industries and consider strategic transformational management capability, such as service industries because there are high competitions and they need to be changed and outstanding to have higher performance than their competitors. Therefore, the researchers will see different views of the strategy implementation.

Thirdly, the future research, the researchers should consider external factors that may affect to strategic transformational management capability, such as politics, economics, and technologies which may be important antecedents in the research.

Fourthly, in the future, the researcher should study a new moderating effect to test the relationship between strategic transformational management capability and consequences which may be affect result and more other variables.

Finally, this research employed quantitative methods which may not cover all features. Future research may use both quantitative and qualitative methods, or, mixed methods such use combining with conducting an in-depth interview the managing director or managing partner of firm for seeking the other aspects of constructs and more perspective of other aspects of research.

BIBLIOGRAPHY

BIBLIOGRAPHY

Aaker, D.A., Kumar, V., and Day, G.S. (2001*). Marketing Research*, New York: John Wiley and Sons.

Abbink, K., and Hennig-Schmidt, H. (2006). Neutral versus loaded instructions in a bribery experiment. *Experimental Economics,* 9(2), 103-121.

Ackerman-Anderson, L. S., and Anderson, D. (2001). *Beyond Change Management: Advanced Strategies for Today's Transformational Leaders*. 15th ed. Chicago: Jossey-Bass/Pfeiffer.

Acquaah, M. (2013). Management control systems, business strategy and performance: A comparative analysis of family and non-family businesses in a transition economy in sub-Saharan Africa. *Journal of Family Business Strategy,* 4(2), 131-146.

Adner, R., and Helfat, C.E. (2003). Corporate effects and dynamic managerial capabilities. *Strategic Management Journal*, 24(10), 1011-1025.

Ajagbe, M., Peter, O., Udo, E., Uduimoh, A., and Akpan, S. (2016). Business strategy as a contributor to organizational performance. *International Journal of Advanced Academic Research*, *2*(3), 1-19.

Akejni, M.J. (2009). *The Incorporation of Indigenous Knowledge in Land Reform Projects: the BASOTHO LETJHABILE and MAOLOSI Trust Agricultural Projects.* Bloemfontein city, South Africa: University of the Free State.

Akman, G., Ozcan, B., and Hatipoglu, T. (2013). Fuzzy multi criteria decision making approach to innovative strategies based on Miles and Snow typology. *Journal of Intelligent Manufacturing*, 26(3), 609-628.

Al-Mahayreh, M., and Abedel-qader, M. (2015). Identifying the Impact of Administrative Transparency on the Administrative Corruption: A study on the Employees of Grand Amman Municipality. *Advances in Management and Applied Economics*, 5(2), 101-126.

Alexander, L. D. (1991). Strategy implementation: nature of the problem, *International Review of Strategic Management,* 21, 73-91.

Allal, M. (1999). *Business Development Services for Micro and Small Enterprises in Thailand.* Micro and Small Enterprise Development and Poverty Alleviation in Thailand, Project ILO/UNDP:THA/99/00 3, July.

Andersen, O. (1993). On the internationalization process of firms: A critical analysis. *Journal of International Business Studies*, 24(2), 209–231.

Andersen, T. (2000). Strategic planning, autonomous actions and corporate performance. *Long Range Planning,* 33(2), 184-204.

Ang, B.W. (2006). Monitoring changes in economy-wide energy efficiency: from energy GDP ratio to composite efficiency index. *Energy Policy,* 34(5), 574-582.

Angelova, B. and Zekiri, J. (2011). Measuring Customer Satisfaction with Service Quality Using American Customer Satisfaction Model (ACSI Model). *International Journal of Academic Research in Business and Social Sciences*, 1(3), 232-258.

Annunziata, E., Pucci, T., Frey, M., and Zanni, L. (2017). The role of organizational capabilities in attaining corporate sustainability practices and economic performance: evidence from Italian wine industry. *Journal of Cleaner Production,* 1-41.

Armbrustera, H., Bikfalvib, A., Kinkela, S., and Laya, G. (2008). Organizational innovation: The challenge of measuring non-technical innovation in large-scale surveys. *Technovation,* 28(10), 644–657.

Armstrong, J.S., and Overton, T. (1977). Estimating Non-response Bias in Mail Surveys. *Journal of Marketing Research*, 14(3), 396-402.

Asif, M., Joost de Bruijn, E., Douglas, A., and Fisscher, O. (2009). Why quality management programs fail: a strategic and operations management perspective. *International Journal of Quality & Reliability Management*, 26(8), 778-794.

Auh, S., and Menguc, B. (2005). Balancing exploration and exploitation: the moderating role of competitive intensity. *Journal of Business Research*, 58(12), 1652-1661.

Avolio, B.J., Walumbwa, F.O., and Weber, T.J. (2009). Leadership: current theories, research, and future directions. *Annual Review of Psychology*, 60(1), 421-449.

Backman, C.A., Verbeke, A., and Schulz, R.A. (2015). The drivers of corporate climate change strategies and public policy: a new resource-based view perspective. *Business & Society*, 56(4), 545–575.

Bal, P. M., De Jong, S. B., Jansen, P. G., and Bakker, A. B. (2012). Motivating employees to work beyond retirement: A multi-level study of the role of ideals and unit climate. *Journal of Management Studies*, 49(2), 306-331.

Baltes, B., Briggs, T., Huff, J., and Wright, J. (1999). Flexible and compressed workweek schedules: A meta-analysis of their effects on work-related criteria. *Journal of Applied Psychology*, 84(4), 496–513.

Banerjee, S.B., Iyer, E.S., and Kashyap, R.K. (2003). Corporate environmentalism and its antecedents: Influence of industry type. *Journal of Marketing*, 67(2), 106-122.

Banwet, D., and Deshmukh, S. (2006). Balanced Scorecard for Performance Evaluation of R&D Organization: A Conceptual Model. J*ournal of Scientific and Industrial Research*, 65(11), 879-886.

Bakker, A.B., Demerouti, E., and Euwema, M.C. (2005). Job resources buffer the impact of job demands on burnout. *Journal of Occupational Health Psychology*, 10(2), 170-180.

Bakker, M., Leenders, R., Gabbay, S., Kratzer, J., and Van Engelen, J. (2006). Is trust really social capital? Knowledge sharing in product development projects? *The Learning Organization*, 13(6), 594–605.

Barney, J. B. (1991). Firm Resources and Sustained Competitive Advantage. *Journal of Management*, 17(1), 99-120.

———. (2001). Resource-based theories of competitive advantage: a ten year retrospective on the resource-based view. *Journal of. Management*, 27(6), 643-650.

Barney, J.B., Wright, M., and Ketchen, D.J. (2001). The resource-based view of the firm: ten years after 1991. *Journal of Management*, 27(6), 625-641.

Barreto, I. (2010). Dynamic capabilities: A review of past research and an agenda for the future. *Journal of Management*, *36*(1), 256-280.

Bass, B. M. (1985). *Leadership and Performance Beyond Expectations*. New York: Free Press.

Bass, B. M., and Avolio, B. J. (1994). *Improving Organizational Effectiveness Through Transformational Leadership*. Thousand Oaks: SAGE.

Bass, B. M., and Riggio, R. E. (2006). *Transformational Leadership.* Mahwah, New Jersey: Lawrence Erlbaum Associates.

Bateman, N., and Arthur, D. (2002). Process improvement programmes: a model for assessing sustainability. *International Journal of Operations & Production Management*, 22(5), 515-526.

Bateman, N., and Rich, N. (2003). Companies' perceptions of inhibitors and enablers for process improvement activities. *International Journal of Operations and Production Management*, 23(2), 185-199.

Becker, K. (2010). Facilitating unlearning during implementation of new technology. *Journal of Organizational Change Management*, *23*(3), 251-268.

Becker, M. (2005). A framework for applying organizational routines in empirical research: linking antecedents, characteristics and performance outcomes of recurrent interaction patterns. *Industrial and Corporate Change*, 14(5), 817–846.

Beerkens, B. (2004). *External Acquisition of Technology: Exploration and Exploitation in International Innovation Networks.* Eindhoven: Technische Universiteit Eindhoven.

Bembenek, B., Piecuch, T. and Ziolkowski. (2014). The implementation of rfid technology in the industrial cluster as an indication of entrepreneurial and sustainable development. 8th International Scientific Conference on Economic and Social Development and 4th Eastern European ESD Conference: Building Resilient Economy, Zagreb, Croatia.

Ben-Menahem, S.M., Kwee, Z., Volberda, H.W., and Van Den Bosch, F.A.J. (2012). Strategic renewal over time: the enabling role of potential absorptive capacity in aligning internal and external rates of change. *Long Range Planning*, 46(3), 216-235.

Berg, A., and Gottschalg, O. (2005). Understanding Value Generation in Buy-outs. *Journal of Restructuring Finance*, 2(1), 9-37.

Berkhout, F. (2012). Adaptation to climate change by organizations. *Wiley Interdisciplinary Reviews: Climate Change*, 3(1), 91–106.

Bhattacherjee, A. and Premkumar, G. (2004). Understanding changes in beliefs and attitudes toward IT usage. *MIS Quarterly*, 28(2), 229-254.

Bianco, A., and Zellner, W. (2003). *Is Wal-Mart Too Powerful?*. Business Week (October 6), 1-6.

Birkinshaw, J., Hamel, G., and Mol, M.J. (2008). Management innovation. *Academy of Management Review*, 33(4), 825-845.

Bitkowska, A. (2010). Innovativeness in Knowledge Management. In Nowacki, R. (Ed.), *Innovation in management and enterprises competitiveness*. Warsaw: Difin, 146–183.

Bititci, U. (2007). An executive's guide to business transformation. *Business Strategy Series*, 8(3), 203-213.

Binnewies, C., Ohly, S., and Sonnentag, S. (2007). Taking personal initiative and communicating about ideas: What is important for the creative process and for idea creativity?. *European Journal of Work and Organizational Psychology*, 16(4), 432–455.

Bird, J. (2015). *Flexibility Crucial in Attracting Millennials. Financial Times*. [Online]. Available from: https://www.ft.com/content/9672854a-5545-11e5-b029-b9d50a74fd14 [accessed, December 21, 2015].

Birasnav, M. (2014). Knowledge management and organizational performance in the service industry: The role of transformational leadership beyond the effects of transactional leadership. *Journal of Business Research*, 67(8), 1622–1629.

Bloodgood, J., and Morrow, J. R. (2003). Strategic organizational change: Exploring the roles of environmental structure, internal conscious awareness and knowledge. *The Journal of Management Studies*, 40(7), 1761–1782.

Boyd, G., and McClelland, J. D. (1999). The impact of environmental constraints on productivity improvement in integrated paper plants. *Journal of Environmental Economics and Management*, 38(2), 121-142.

Bozkurta, O., Kalkanb, A., and Arman, M. (2014). The Relationship between Structural Characteristics of Organization and Followed Business Strategy: An application in Denizli. *Procedia - Social and Behavioral Sciences*, 150(1), 222-229.

Brand, U. (2016). Transformation" as a New Critical Orthodoxy. The Strategic Use of the Term "Transformation" Does Not Prevent Multiple Crises. *GAIA*, 25(1), 23–27.

Bridges, W. (2003). *Managing Transitions: Making the Most of Change*. 2nd ed. Cambridge, Massachusetts: Perseus.

Britcher, J. (n.d.). *Transformation Management, Organizational Transformation and Effectiveness.* [Online]. Available from: http://www.transformationmanagement.com/What-Is-Transformation-Management.html [accessed, January 18, 2015].

Bronzo. M, Oliveira, M., and McCormack, K. (2012). Planning, capabilities, and performance: an integrated value approach. *Management Decision*, 50(6), 1001-1021.

Brown, S. L., and Eisenhardt, K. M. (1997). The art of continuous change: linking complexity theory and time-paced evolution in relentlessly shifting organizations. *Administrative Science Quarterly*, 42(1), 1-34.

Brones, F., and Carvalho, M.M. de. (2014). From 50 to 1: integrating literature toward a systemic ecodesign model. *Journal of Cleaner Production*, 96, 44-57.

Brones, F., Carvalho, M.M. de., and Zancul, E. de S. (2014). Ecodesign in project management: a missing link for the integration of sustainability in product development?. *Journal of Cleaner Production*, 80, 106-118.

Brunet, A. P., and New, S. (2003). Kaizen in Japan: an empirical study. *International Journal of Operations & Production Management*, 23(12), 1426-1446.

Buckley, P. J., and Casson, M. C. (1998). Analyzing foreign market entry strategies: Extending the internalization approach. *Journal of International Business Studies*, 29(3), 539–561.

Bui, B., and Villiers, C. (2017). Business strategies and management accounting in response to climate change risk exposure and regulatory uncertainty. *The British Accounting Review*, 49(1), 4-24.

Burns, R., and Burns, R. A. (2008). *Business Research Methods and Statistics using SPSS*. London: SAGE.

Burns, T., and Stalker, G.L. (1961). *The Management of Innovation*. Tavistock, London.

Cadez, S. (2016). Climate change mitigation strategies in carbon-intensive firms. *Journal of Cleaner Production*, 112(5), 4132–4143.

Caffyn, S. (1999). Development of a continuous improvement self-assessment tool. *International Journal of Operations & Production Management*, *19*(11), 1138-1153.

Caldwell, S. D., Herold, D. M., and Fedor, D. B. (2004). Toward an understanding of the relationships among organizational change, individual differences, and changes in person-environment fit: A cross-level study. *Journal of Applied Psychology*, 89(5), 868– 882.

Calvo-Mora, A., Navarro-García, A., Rey-Moreno, M., and Perianez-Cristobal, R. (2016). Excellence management practices, knowledge management and key business results in large organisations and SMEs: A multi-group analysis. *European Management Journal*, 34(6), 661-673.

Campbell, H., and Macdonald, S. (1995). Evaluation of the Fife Health Visitor Proactive Training Programme. *Public Health*. 109(5), 327-335.

Campbell-Hunt, C. (2000). What have we learned about generic competitive strategy? A meta-analysis. *Strategic Management Journal*, 21(2), 127-154.

Cape, J., and Barkham, M. (2002). Practice improvement methods: conceptual base, evidence-based research, and practice-based recommendations. *British Journal of Clinical Psychology*, 41(3), 285–307.

Capron, L., and Mitchell, W. (2009). Selection capability: How capability gaps and internal social frictions affect internal and external strategic renewal. *Organization Science*, 20(2), 294-312.

Carrell, S. (2012). *Climate Change 'a Aoral Issue'*. [Online]. Available from: http://dawn.com/2012/04/09/climate-change-a-moral-issue.[accessed, December 21, 2017].

CDP. (2015). *Supply chain Sustainability Revealed: a Country Comparison*. Supply Chain Report 2014-15. [Online]. Available from: https://www.cdp.net/CDPResults/CDPSupply-Chain-Report-2015.pdf [accessed 22, March 2017].

Cetindamar, D., Phaal, R., and Probert, D. (2009). Understanding technology management as a dynamic capability: A framework for technology management activities. *Technovation*, 29(4), 237-246.

Chai-Amonphaisal, K., and Ussahawanitchakit, P. (2010). Strategic Management Accounting and Corporate Performance of Thai-listed Companies: A Mediating Effect of Management Process. *International Journal of Strategic Management*, 10(1), 1-23.

Chandler, A. D. (1962). *Strategy and Structure: Chapters in the History of the Industrial Enterprise*. Cambridge, Massachusetts: MIT Press.

Chase, R., and Jacobs, F. R. (2001). Operations management for competitive advantage. *Journal of Operations Management*, 27(3), 185-202.

Chen, C., Huang, J., and Hsiao, Y. (2010). Knowledge management and innovativeness: The role of organizational climate and structure. *International Journal of Manpower*, 31(8), 848-870.

Chen, C., and Huang, J. (2009). Strategic human resource practices and innovation performance--the mediating role of knowledge management capacity. *Journal of Business Research*, 62(1), 104-114.

Chen, S. (2009). A transaction cost rationale for private branding and its implications for the choice of domestic vs. offshore outsourcing. *Journal of International Business Studies*, 40(1), 156–175.

Chen, Y., Wang, Y., Nevo, S., Benitez-Amado, J., and Kou, G. (2015). IT capabilities and product innovation performance: The roles of corporate entrepreneurship and competitive intensity. *Information & Management*, 52(6), 643–657.

Chin, K., Tang, D., Yang, J, Wong, S., and Wang, H. (2009). Assessing new product development project risk by Bayesian network with a systematic probability generation methodology. *Expert Systems with Applications*, 36(6), 9879–9890.

Choi, B., and Lee, H. (2003). An empirical investigation of KM styles and their effect on corporate performance. *Information and Management*, 40(5), 403–417.

Chungyalpa, W., and Bora, B. (2015). Towards conceptualizing business strategies. *International Journal of Multidisciplinary Approach and Studies*, 2(1), 73-83.

Churchill, G.A. (1979). A paradigm for developing better measures of marketing constructs. *Journal of Marketing Research*, 16(1), 67-73.

Ciabuschi, F., Perna, A., and Snehota, I. (2012). Assembling Resources When Forming A New Business. *Journal of Business Research*, 65(2), 220-229.

Cinite, I., Duxbury, L., and Higgins, C. (2009). Measurement of Perceived Organizational Readiness for Change in the Public Sector. *British Journal of Management*, 20(2), 265–277.

Cleaves, D. (2014). Forward. In: Peterson, D.L., Vose, J.M., Patel-Weynand, T. (Eds.), *Climate Change and United States Forests*. Springer, Netherlands.

Clegg, S. R., and Hardy, C. (1996*).* Organizations, Organization, and Organizing. In S. R. Clegg, C. Hardy, and W. R. Nord (Eds.), *Handbook of Organization Studies*, 1–28, Thousand Oaks, California: SAGE.

Coenen, M., and Kok, R. (2014). Workplace flexibility and new product development performance: The role of telework and flexible work schedules. *European Management Journal*, 32(4), 564–576.

Coetzee, R., Visagie, J., and Ukpere, W. (2012). Leadership challenges in change intervention and navigation. *African journal of Business Management*, 6(51), 12076-12085.

Cohen, M. (2012). Perceiving and Remembering Routine Action: Fundamental Micro-Level Origins. *Journal of Management Studies*, 49(8), 1383–1388.

Collins, J., and Porras, J. (1994). *Built to Last: Successful Habits of Visionary Companies*. New York: HarperCollins.

Cooper, R., Edgett, S., and Kleinschmidt, E. (2002). *Improving New Product Development Performance and Practices*. Consortium Learning Forum Best-Practice Report. Houston, TX: American Productivity and Quality Center.

Cristina De Stefano, M., Montes-Sancho, M., and Busch, T. (2016). A natural resource-based view of climate change: Innovation challenges in the automobile industry. *Journal of Cleaner Production*, 139(1), 1436-1448.

Crook, T. R., Ketchen, D. J., Combs, J.G., and Todd, S.Y. (2008). Strategic resources and performance: A meta-analysis. *Strategic Management Journal*, 29(11), 1141–1154.

Cui, A., Griffith, D., and Cavusgil, S. (2005). The influence of competitive intensity and market dynamism on knowledge management capabilities of multinational corporation subsidiaries. *Journal of International Marketing*, 13(3), 32–53.

Cyert, R., and March, J. (1963). *A Behavioral Theory of the Firm*. Englewood Cliffs, New Jersey: Prentice-Hall.

Damanpour, F. (1996). Organizational complexity and innovation: developing and testing multiple contingency models. *Management Science*, 42(5), 693–716.

Danneels, E. (2010). Trying to become a different type of company: dynamic capability at smith corona. *Strategic Management Journal*, 32(1), 1–31.

Das, R., and Joshi, M. (2012). Process Innovativeness and Firm Performance in Technology Service Firms: The Effect of External and Internal Contingencies, IEEE Transactions on. *Engineering Management*, 59(3), 401-414.

Das, S., and Joshi, M. (2007). Process innovativeness in technology services organizations: Roles of differentiation strategy, operational autonomy and risk taking propensity. *Journal of Operations Management*, 25(3), 643– 660.

Daszko, M., Macur, K., and Sheinberg, S. (2005). *Transformation: a Definition, Theory and Challenges to Transforming*. California: Marcia Daszoko and Associates.

Davis, E., Kee, J., and Newcomer, K. (2010). Strategic transformation process: Toward purpose, people, process and power. *Organization Management Journal*, 7(1), 66–80.

Davis, F. (1993). User acceptance of information technology system characteristics, user perceptions and behavioral impacts. *International Journal of Man-Machine Studies*, 38(3), 475–87.

Dawes, P. L., and Lee, D. Y. (1996). Communication Activity in Organizational High-technology Purchasing Decisions. *Journal of Business-to-Business Marketing*, 3(3), 3-38.

Day, G. S. (1994). The capabilities of market-driven organizations. *Journal of Marketing*, 58(4), 37–52.

D'Amato, A., and Roome, N. (2009). Leadership of organizational change. Toward an integrated model of leadership for corporate responsibility and sustainable development: a process model of corporate responsibility beyond management innovation. *Corporate Governance*, 9(4), 421-434.

Decarolis, D.M., and Deeds, D.L. (1999). The impact of stocks and flows of organizational knowledge on firm performance: an empirical investigation of the biotechnology industry. *Strategic Management Journal*, 20(10), 953-958.

Deming, W. E. (1986). *Out of the Crisis*. Cambridge: MIT Press.

———. (1993). *The New Economics*. Cambridge: MIT Press.

———. (2000), *Out of the Crisis*. Cambridge: MIT Press.

Demerouti, E., Bakker, A.B., Nachreiner, F., and Schaufeli, W.B. (2001). The job demands resources model of burnout. *Journal of Applied Psychology*, 86(3), 499-512.

Dencker, K., Stahre, J., Martensson, L., Fasth, A., and Akillioglu, H. (2009). Proactive Assembly Systems- Relaizing the potential of human collaboration with automation. *Annual Reviews in Control*, 33(3), 230–237.

Dess, G. G., and Davis, P. S. (1984). Porter's (1980) generic strategies as determinants of strategic group memberships and organizational performance. *Academy of Management Journal*, 27(3), 467-488.

Detert, J. R., and Burris, E. R. (2007). Leadership behavior and employee voice: is the door really open?. *Academy of Management Journal*, 50(4), 869–884.

Dewar, B. (2012). Using creative methods in practice development to understand and develop compassionate care. *International Practice Development Journal*, 2(1), 1-11.

Dictionary. (2013). *Transformation*. [Online]. Available from: http://dictionary.reference.com/browse/ transformation [accessed, February 2, 2013].

Dierickx, I., and Cool, K. (1989). Asset Stock Accumulation and Sustainability of Competitive Advantage. *Management Science*, 35(12), 1504-1511.

Dionne, S., Yammarino, F., Atwater, L., and Spangler, W. (2004). Transformational leadership and team performance. *Journal of Organizational Change Management*, 17(2), 177-193.

Donaldson, L. (1996). *The Normal Science of Structural Contingency Theory*. In S. R. Clegg, C. Hardy, and W. R. Nord (Eds.), Handbook of organization studies, 57–76, London: SAGE.

Donsante, J., Edgar, D., Gill, L., Thomson, C., Williamson, M., and Walsh, K. (2013). Practice development for midwifery education: An innovative way forward. *Nurse Education in Practice*, 13(1), 68-72.

Drazin, R., and Van de Ven, A. (1985). Alternative forms of fit in contingency theory. *Administrative Science Quarterly*, 30(4), 514-539.

Dreyer, B., and K. Gronhaug. (2004). Uncertainty, flexibility, and sustain competitive advantage. *Journal of Business Research*, 57(5), 484-494.

Drnevich, P., and Kriauciunas, A. (2011). Clarifying the conditions and limits of the contributions of ordinary and dynamic capabilities to relative firm performance, *Strategic Management Journal*, 32(3), 254-279.

Dutta, P. (1999). Strategic behavior. *Fundamentals Economics*, 1, 1-6.

Eisenbach, R., Watson, K., and Pillai, R. (1999). Transformational leadership in the context of organizational change. *Journal of Organizational Change Management*, 12(2), 80-88.

Eisenhardt, K. M., and Martin, J. A. (2000). Dynamic capabilities: What are they?. *Strategic Management Journal*, 21(10), 1105-1121.

Enkvist, P., Naucler, T., and Oppenheim, J. M. (2008). Business Strategies for Climate Change. *The McKinsey Quarterly*, 1(2), 24-33.

Esterhuizena, D., Schuttea, C., and du Toit, A. (2012). Knowledge creation processes as critical enablers for innovation. *International Journal of Information Management*, 32(4), 354–364.

Fayol, H. (1916). *Administration Industrielle et Gnérale*. London: Pitman and Sons.

Feiler, P., and Teece, D. (2014). Case study, dynamic capabilities and upstream strategy: Supermajor EXP. *Energy Strategy Reviews*, 3(1), 4-20.

Fein E, Tziner A., and Vasiliu C. (2010). Age cohort effects, gender, and Romanian leadership preferences. *Journal of Management Development*, 29(4), 364–76

Feng, H., Wang, K., and Wang, X. (2006). A Study on Structural Model for Strategic Transformation of Firms Based on Organization Learning. *International Conference on Management Science and Engineering*, 1(1), 1-15.

Feola, G. (2014). Societal transformation in response to global environmental change: A review of emerging concepts. *AMBIO. A Journal of the Human Environment*, 44(5), 376-390.

Ferdinand, J. (2015). Building organisational cyber resilience: A strategic knowledge-based view of cyber security management. *Journal of Business Continuity and Emergency Planning*, 9(2), 185-195.

Fernandez, S., and Rainey, H. G. (2006). Managing successful organizational change in the public sector: An agenda for research and practice. *Public Administration Review*, 66(2), 168–176.

Fiedler, F. E. (1967). *A Theory of Leadership Effectiveness*. New York: McGraw-Hill.

Fleck, J. (1994). Learning by trying: the implementation of configurational technology. *Research Policy*, 23(6), 637-652.

Foster, G., and Swenson, D. W. (1997). Measuring the Success of Activity Based Cost Management and its Determinants. *Journal of Management Accounting Research*, 9, 109-141.

Frahm, J. (2007). Organizational change: Approaching the frontier, some faster than others. *Organizations*, 14(6), 945–952.

French, W., and Bell, C. H. (2006), *Management of Transformation in Organization*. Boston, Massachusetts: McGraw-Hill.

Frishammar, J., Lichtenthaler, U., and Richtner, A. (2013). Managing process development: Key issues and 578 dimensions in the front end. *R&D Management*, *43*(3), 213–226.

Gagnon, M., Desmartis, M., Labrecque, M., Car, J., Pagliari, C., Pluye, P., Frémont, P., Gagnon, J., Tremblay, N., and Légaré, F. (2010). Systematic review of factors influencing the adoption of information and communication technologies by healthcare professionals. *Journal of Medical Systems*, 36(1), 241–277.

Galbraith, J. R. (1973). *Designing Complex Organizations*. Boston, Massachusetts: Addison-Wesley.

Galbreath, J., Charles, D., and Oczkowski, E. (2016). The Drivers of Climate Change Innovations: Evidence from the Australian Wine Industry. *Journal of Business Ethics*, 135(2), 217–231.

Garcés-Galdeano. L, García-Olaverri. C., and Huerta. E. (2016). Management capability and performance in Spanish family firms. *Academia Revista Latinoamericana de Administración*, 29(3), 303-325.

García-Zamora, E., González-Benito, O., and Muñoz-Gallego, P. (2013). Organizational and environmental factors as moderators of the relationship between multidimensional innovation and performance. *Innovation: Management, Policy and Practice*, 15(2), 224-244.

Garrido-Vega, P., Ortega Jimenez, C., de los Ríos, J., and Morita, M. (2015). Implementation of technology and production strategy practices: Relationship levels in different industries. *International Journal of Production Economics*, 161(1), 201-216.

Garud, R., Tuertscher, P., and Van de Ven, A. H. (2013). Perspectives on innovation processes. *The Academy of Management Annals*, 7(1), 775-819.

Gatignon, H., and Xuereb, J. (1997). Strategic orientation in the firm and new product performance. *Journal of Marketing Research*, 34(1), 77–90.

Gebauer, H. (2011). Exploring the contribution of management innovation to the evolution of dynamic capabilities. *Industrial Marketing Management*, 40(8), 1238–1250.

Gehman, J., Trevino, L., and Garud, R. (2013). Values Work: A Process Study of the Emergence and Performance of Organizational Values Practices. *Academy of Management Journal*, 56(1), 84-112.

Gheysari, H., Rasli, A., Roghanian, P., and Jebur, H. (2012). The role of information technology infrastructure capability (ITIC) in management. *International Journal of Fundamental Psychology and Social Sciences*, 2(2), 36-40.

Ghoshal, S., and Bartlett, C. (1995). Changing the role of Top management: Beyond structure to processes. *Harvard Business Review*, 73(1), 86-96.

Gold, A.H., Malhotra, A., and Segars, A.H. (2001). Knowledge management: an organizational capabilities perspective. *Journal of Management Information System*, 18(1), 185-214.

Golec, A. (2015). A relationship framework and application in between strategy and operational plans for manufacturing industry. *Computers and Industrial Engineering*, 86(1), 83–94.

Goretzki, L., and Messner, M. (2016). Coordination under uncertainty A sensemaking perspective on cross-functional planning meetings. *Qualitative Research in Accounting and Management*, 13(1), 92-126.

Gopalakrishnan, S., Bierly, P., and Kessler, E. (1999). A reexamination of product and process innovations using a knowledge-based view. *Journal of High Technology Management*, 10(1), 147–166.

Gouillart, F.J., and Kelly, J.N. (2005). *Transforming the Organization*. New York: McGraw-Hill.

Govindarajan, V., and Trimble, C. (2005). *Ten Rules for Strategic Innovations*. Boston: Harvard Business School Press.

Grant, A.M. (2012). Leading with meaning: beneficiary contact, prosocial impact, and the performance effects of transformational leadership. *Academy of Management Journal*, 55(2), 458-476.

Green, P.E., Tull, D.S., and Albaum, G. (1988). *Research for Marketing Decisions*. Englewood Cliffs: New Jersey, fifth edition.

Griener, L., Cummings, T., and Bhambri, A. (2003). When new CEOs succeed and fail: 4-D theory of strategic transformation. *Organizational Dynamics*, 32(1), 1-16.

Griffith, D. A., Kiessling, T. S., and Dabic, M. (2005). An exploratory examination into the challenges to technology transfer in the transitional economy of Croatia. *Thunderbird International Business Review*, 47(2), 163-181.

Griffith-Cooper, B., and King, K. (2007). The partnership between project management and organizational change: Integrating change management with change leadership. *Performance Improvement*, 46(1), 14–20.

Grossmann, I. E., van den Heever, S. A., and Harjunkoski, I. (2001*).* Discrete optimization methods and their role in the integration of planning and scheduling. *Presented at Proceedings of Chemical Process Control Conference 6*, Tucson, AZ.

Gupta, S., and Kumar, V. (2013). Sustainability as corporate culture of a brand for superior performance. Journal of World Business, 48(3), 311–320.

Guo, P., and Hassin, R. (2012). Strategic behavior and social optimization in Markovian vacation queues: The case of heterogeneous customers. *European Journal of Operations Research*, 222(2), 278–286.

Haigh, N., and Griffiths, A. (2012). Surprise as a catalyst for including climatic Change in the strategic environment. *Business and Society*, 51(1), 89-120.

Hair, J. F. Jr., Black, W. C., Babin, B. J., Anderson, R. E., and Tatham, R. L. (2006). *Multivariate Data Analysis*. 6th ed., New Jersey: Pearson Education.

Hair, J.F., Black, W.C., Babin, B.J., and Anderson, R.E. (2010). *Multivariate Data Analysis: A Global Perspective*. 7th ed. New Jersey: Pearson Prentice Hall.

Haleblian, J., Mcnamara, G., Kolev, K., and Dykes, B. (2012). Exploring firm characteristics that differentiate leaders from followers in industry merger waves: a competitive dynamics perspective. *Strategic Management Journal*, 33(9), 1037–1052.

Hambrick, D. (1983). An empirical typology of mature industrial-product industries: a contingency approach. *Academy of Management Journal*, 26(4), 687-707.

———. (2003). On the Staying Power of Miles and Snow's Defenders, Analyzers, and Prospectors. *Academy of Management Executive*, 17(4), 115-118.

Hamel, G. (2006). *The Why, What and How of Management Innovation*. Harvard Business Review.

———. (2007). *The Future of Management*. Boston, Massachusetts: Harvard Business School Press.

Hao. Q, Kasper. H., and Muehlbacher. J. (2012). How does organizational structure influence performance through learning and innovation in Austria and China. *Chinese Management Studies*, 6(1), 36-52.

Harris, M., Gibson, S., and McDowell, W. (2014). The Impact of Strategic Focus and Previous Business Experience on Small Business Performance. *Journal of Small Business Strategy*, 24(1), 29-44.

Heartel, C.E., and Pearman, G. (2010). Understanding and responding to the climate change issue: towards a whole-of-science research agenda. *Journal of Health Organization and Management*, 16(1), 16-47.

Hechanova, R., and Cementina-Olpoc, R. (2013). Transformational Leadership, Change Management, and Commitment to Change: A Comparison of Academic and Business Organizations. *Asia-Pacific Education Researcher*, 22(1), 11–19.

Heckl, D., Moormann, J., and Rosemann, M. (2010). Uptake and success factors of Six Sigma in the financial services industry. *Business Process Management Journal*, 16(3), 436–472.

Helfat, C. E., Finkelstein, S., Mitchell, W., Peteraf, M. A., Singh, H., Teece, D. J., and Winter, S. (2007). *Dynamic Capabilities: Understanding Strategic Change in Organizations*. Malden, MA: Blackwell Publishing.

Helfat, C., and Martin, J. (2015). Dynamic managerial capabilities: review and assessment of managerial impact on strategic change. *Journal of Management*, 41(5), 1281-1312.

Helfat, C., and Peteraf, M. (2003). The dynamic resource-based view: capability lifecycles. *Strategic Management Journal*, 24(10), 997-1010.

———. (2009). Understanding dynamic capabilities: progress along a developmental path. *Strategic Organization*, 7(1), 91-102.

Henard, D., and Szymanski, D. (2001). Why some new products are more successful than others. *Journal of Marketing Research*, 38(3), 362–375.

Henderson. J., and Ruikar. K. (2010). Technology implementation strategies for construction organisations. Engineering, *Construction and Architectural Management*, 17(3), 309-327.

Herold, D. M., Fedor, D. B., Caldwell, S., and Liu, Y. (2008). The effects of change and transformational leadership on employees' commitment to change: A multilevel study. *Journal of Applied Psychology*, 93(2), 346–357.

Heston, S. (2013). *The Process of Proper Lubrication*. [Online]. Available from: http://www.plantengineering.com. [accessed, December 20, 2014].

Higgs, M. J., and Rowland, D. (2005). All changes great and small: Exploring approaches to change and its leadership. *Change Management Journal*, 5(2), 121–151.

———. (2010). Emperors with clothes on: The role of self-awareness in developing effective change leadership. *Journal of Change Management*, 10(4), 369–385.

———. (2011). What does it take to implement change successfully? A study of the behaviors of successful change leaders. *Journal of Applied Behavioral Science*, 47*(*3), 309–335.

Hill, E. J., Grzywacz, J. G., Allen, S., Blanchard, V. L., Matz-Costa, C., Shulkin, S., and Pitt-Catsouphes, M. (2008). Defining and conceptualizing workplace flexibility. *Community, Work and Family*, 11(1), 149-163.

Hofer, C.W. (1980), Turnaround strategies. *Journal of Business Strategy*, 1(1), 19-31.

Hofer, C.W., and Schendel, D. (1978), *Strategy Formulation: Analytical Concepts*. Saint Paul, Minnesota: West Publishing.

Hoffman, A. (2005). Climate change strategy: The business logic behind voluntary greenhouse gas reductions. *California Management Review*, 47(3), 21-46.

Homburg, C., Artz, M., and Wieseke, J. (2012). Marketing performance measurement systems: Does comprehensiveness really improve performance?. *Journal of Marketing*, 76(5), 56-77.

Hooley, G., Greenley, G., Fahy, J., and Cadogan, J. (2001). Market-focused resources, competitive positioning and firm performance. *Journal of Marketing Management*, 17(5-6), 503-520.

Howard-Grenville, J., Buckle, S., Hoskins, B., and George, G. (2014). Climate Change and Management: From the Editors. *Academy of Management Journal*, 57(3), 615-623.

Hsieh, M. H., and Tsai, K. H. (2007). Technological capability, social capital and the launch for innovative products. *Industrial Marketing Management*, 36(4), 493–502.

Hunt, J.G. (2005). Explosion of the leadership field and LQ's changing of the editorial guard. *The Leadership Quarterly*, *16*(1), 1-8.

Hurtubise. S, Olivier. C., and Gharbi. A. (2004). Planning tools for managing the supply chain. *Computers and Industrial Engineering*, 46(4), 763–779.

Ijeoma, E., and Nzewi, O. (2016). Work Procedures Application in Municipal Government: Perspectives from Local Government Employees in South Africa. *Journal of Public Administration*, 51(1), 58-72.

Intarapanich, S., Ussahawanitchakit, P., and Suwannarat, P. (2011). Dynamic Technology Capability, Firm Competitiveness Enhancement, and Organizational Stability: Evidence from Information Technology Businesses in Thailand. *Journal of International Business & Economics*, 11(4), 93-114.

International Federation of Accountants (IFAC). (1998). *International Management Accounting Practice Statement: Management Accounting Concepts*. New York. (Revised March): 82-100.

Ionescu, v., Cornescu, V., and Druica, E. (2012). Flexible Organization. Global Business and Management Research. *An International Journal*, 4(3&4), 277-285.

Jaca, C., Viles, E., Mateo, R., and Santos, J. (2012). Components of sustainable improvement systems: theory and practice. *The TQM Journal*, 24(2), 142-154.

Jarbandhan, V. (2015). A Conceptual Framework for the Application of Work Procedures in the Public Sector. *Administratio Publica*, 23(2), 1-153.

Jarratt, D. (2008). Testing a theoretically constructed relationship management capability. *European Journal of Marketing*, 42(9/10), 1106-1132.

Javalgi, R. G., and White, S. D. (2002). Strategic challenges for the marketing of services internationally. *International Marketing Review*, 19(6), 563–581.

Jermias, J. (2006). Competitive intensity as a quasi- moderator of the relationship between innovative efforts and performance. *International Journal of Business*, 8(3), 281–299.

Johnson, W.C., Kang, J.-K., and Yi, S. (2010). The certification role of large customers in the new issues market. *Financial Management*, 39(4), 1425–1474.

Jones, G. K., Lanctot Jr, A., and Teegen, H. J. (2001). Determinants and performance impacts of external technology acquisition. *Journal of Business venturing*, 16(3), 255-283.

Jorgensen, F., Boer, H., and Gertsen, F. (2003). Jump-starting continuous improvement through self-assessment. *International Journal of Operations & Production Management*, 23(10), 1260-1278.

Joshi, P. (2001). The International Diffusion of New Management Accounting Practices: The Case of India', International Accounting. *Auditing &Taxation*, 10(1), 85-109.

Kanter, R. M. (1984). *The Change Masters*. London: Unwin Hyman.

Kaslow, N. J., Falender, C. A., and Grus, C. L. (2012). Valuing and practicing competency-based supervision: A transformational leadership perspective. *Training and Education in Professional Psychology*, 6(1), 47-54.

Karim, S. (2006). Modularity in organizational structure: The reconfiguration of internally developed and acquired business units. *Strategic Management Journal*, 27(9), 799-823.

Karim, S. (2009). Business unit reorganization and innovation in new product markets. *Management Science*, 55(7), 1237-1254.

Katz, R.L. (1974). Skills of an effective administrator. *Harvard Business Review*, 52(1), 90-102.

Kawano, F., Takeno, Y., Nakai, N., Higo, Y., Terada, M., Ohira, T., Nonaka, I., and Ohira, Y. (2008). Essential role of satellite cells in the growth of rat soleus muscle fibers. *American Journal of Physiology-Cell Physiology*, 295(2), 458-467.

Kaye, M., and Anderson, R. (1999). Continuous improvement: the ten essential criteria. *International Journal of Quality & Reliability Management*, 16(5), 485-509.

Kelloway, E. K., Turner, N., Barling, J., and Loughlin, C. (2012). Transformational leadership and employee psychological well-being: The mediating role of employee trust in leadership. *Work and Stress*, 26(1), 39–55.

Kelly, T., and Gosman, M. (2000). Increased buyer concentration and its effects on profitability in the manufacturing sector. *Review of Industrial Organization*, 17(1), 41–59.

Kerosuo, H., and Engeström, Y. (2003). Boundary crossing and learning in creation of new work practice. *Journal of Workplace Learning*, 15(7/8), 345–351.

Khodakarami, F., and Chan, Y. (2014). Exploring the role of customer relationship management (CRM) systems in customer knowledge creation. *Information Technology and Management*, 51(1). 27–42.

Kilgallon. W., and Lampe. R. (2007). Transformation planning and implementation: An evaluation of processes, experience and future directions. *Journal of Medical Marketing*, 7(4), 277–286.

Kirkham, L., Garza-Reyes, J., Kumar, V., and Antony, J. (2014). Prioritisation of operations improvement projects in the European manufacturing industry. *International Journal of Production Research*, 52(18), 5323-5345.

Kittikunchotiwut, P., Ussahawanitchakit, P., and Pratoom, K. (2013). Strategic Management Creativity and Firm Survival: An Empirical Investigation of the Exporting Fashion Accessories Businesses in Thailand. *Journal of Academy of Business and Economics*, 13(3), 87-114.

Kodama, M., and Shibata, T. (2014). Strategic transformation through strategic innovation capability – A case study of Fanuc. *Research and Development Management*, 44(1), 75-103.

Kogut, B., and Zander, U. (1992). Knowledge of the Firm, Combinative Capabilities, and the Replication of Technology. *Organization Science*, 3(3), 383-397.

Kolk, A., and Pinkse, J. (2005). Business response to climate change: identifying emergent strategies. *California Management Review*, 47(3), 6–20.

———. (2008). A perspective on multinational enterprises and climate change: Learning from "an inconvenient truth"?. *Journal of International Business Studies*, 39(8), 1359-1378.

Koontz, H., and O'donnell, C. (1955), *Principles of Management: An Analysis of Managerial Functions*, New York: McGraw-Hill.

Kor, Y., and Mesko, A. (2013). Dynamic managerial capabilities: configuration and orchestration of top executives' capabilities and the firm's dominant logic. *Strategic Management Journal*, 34(2), 233-244.

Korcan, A., and Patatoukas, P.N. (2015). Customer-base concentration and inventory efficiencies: evidence from the manufacturing sector. *Production and Operations Management*, 25(2), 258–272.

Kotha, S., and Vadlamani, B. L. (1995). Assessing generic strategies: An empirical investigation of two competing typologies in discrete manufacturing industries. *Strategic Management Journal*, 16(1), 75-83.

Kotter, J. P. (1996). *Leading Change*. Boston: Harvard Business School Press.

Kovacha, J., Hora, M., Manikas, A., and Pate, P. (2015). Firm performance in dynamic environments: The role of operational slack and operational scope. *Journal of Operations Management*, 37(1), 1–12.

Kraatz, M.S., and Zajac, E.J. (2001). How organizational resources affect strategic change and performance in turbulent environments: theory and evidence. *Organization Science*, 12(5), 632-657.

Krasnikov, A., and Jayachandran, S. (2008). The relative impact of marketing, research and development, and operations capabilities on firm performance. *Journal of Marketing*, 72(4), 1–11.

Kratzer, J., Gemünden, H. G., and Lettl, C. (2008). Revealing the dynamics and their consequences of formal and informal networks in multi-institutional product development collaborations. *Research Policy*, 37(8), 1356–1370.

Krishna, V., Prakash, G., and Manikandan, M. (2015). Congregatingor Swerving? Developmental trends and changing role of Indian organizational flexibility along globalization process. *Procedia-Social and Behavioral Sciences*, 189(1), 64–80.

Krishnan, G.V., Lee, H.S., Patatoukas, P.N., and Wang, A.Y. (2015). *Major Customer Dependency: Implications for Audit Pricing and Quality*. Working Paper, Social Science Research Network.

Krzakiewicz, K. (2013). Dynamic capabilities and knowledge management. *Management*, 17(2), 1-15.

Kuckertz, M., and Wagner, M. (2010). The influence of sustainability orientation on entrepreneurial intentions--Investigating the role of business experience. *Journal of Business Venturing*, 25(5), 524-539.

Kurkkio, M., Frishammar, J., and Lichtenthaler, U. (2011). Where process development begins: A multiple case study of front end activities in process firms. *Technovation*, 31(9), 490–504.

Labuschagne, C., Brent, A. C., and Erck, R. P. (2005). Assessing the sustainability performances of industries. *Journal of Cleaner Production*, 13(4), 373-385.

Ladib, N., and Lakhal, L. (2015). Alignment between business model and business strategy and contribution to the performance: Empirical evidence from ICT Tunisian venture. *Journal of High Technology Management Research*, 26(2), 168–176.

Lado, A., Boyd, N., Wright, P., and Kroll, M. (2006). Paradox and Theorizing within the Resource-based View. *Academy of Management Review*, 31(1), 115-131.

Lagace, D., and Bourgault M. (2003). Linking manufacturing improvement programs to the competitive priorities of Canadian SMEs. *Technovation*, 23(8). 705-715.

Lager, T. (2002). Product and process development intensity in process industry: a conceptual and empirical analysis of the allocation of company resources for the development of process technology. *International Journal of Innovation Management*, 6(2), 105–130.

Lahiri, S., Kedia, B., and Mukherjee, D. (2012). The impact of management capability on the resource–performance linkage: Examining Indian outsourcing providers. *Journal of World Business*, 47(1), 145–155.

Lahiri, S., Kedia, B., Raghunath, S., and Agrawal, N. (2009). Anticipated Rivalry as a Moderator of the Relationship between Firm Resources and Performance. *International Journal of Management*, 26(1), 146-158.

Lamarsh, J. (1995). *Changing the Way we Change: Gaining Control of Major Operational Change.* Massachusetts: Addison-Wesley.

Lambertini, L. (2011). *Game Theory in the Social Sciences*. Routledge, London and New York.

Langerak, F., Hultink, E., and Griffin, A. (2008). Exploring mediating and moderating influences on the links among cycle time, proficiency in entry timing, and new product profitability. *Journal of Product Innovation Management*, 25(4), 370–385.

Lapide, L. (2011). Sales and Operations Planning: The Linchpin Planning Process. *Journal of Business Forecasting*, 30(3), 4-5.

Lawrence, P. R., and Lorsch, J. (1967). Differentiation and integration in complex organizations. *Administrative Science Quarterly*, 12(1), 1–47.

Lawson, B., and Samson, D. (2001). Developing innovation capability in organisations: a dynamic capabilities approach. *International Journal of Innovation Management*, 5(3), 377-400.

Lee, J., Lee, K., and Rho, S. (2002). An evolutionary perspective on strategic group emergence: a genetic algorithm-based model. *Strategic Management Journal.* 23(8), 727-746.

Lee, M., and Lan, Y. (2011). Toward a unified knowledge management model for SMEs. *Expert Systems with Applications*, 38(1), 729–735.

Lee, S. (2012). Corporate Carbon Strategies in Responding to Climate Change. *Business Strategy and the Environment*, 21(1), 33-48.

Lee, S.Y., and Klassen, R.D. (2015). Firms' response to climate change: the interplay of business uncertainty and organizational capabilities. *Business Strategy and the Environment*, 25(8), 577-592.

Leiblein, M., Reuer, J., and Dalsace, F. (2002). Do Make or Buy Decision matter? The influence of Organization Governance of technological Performance Strategic. *Management Journal*, 23(9), 817-833.

Leonard-Barton, D. (1992). Core capabilities and core rigidities: a paradox in managing new product development. *Strategic Management Journal*, 13, 111–125.

Lertwongsatien, C., and Wongpinunwatana, N. (2003). E-commerce adoption in Thailand: An empirical study of small and medium enterprises (SMEs). *Journal of Global Information Technology Management*, 6(3), 67-83.

Lewis, E. F., Hardy, M., and Snaith, B. (2013). An analysis of survey reporting in the imaging professions: Is the issue of non-response bias being adequately addressed?. *Radiography*, 19(3), 240–245.

Lewis, L.K. (2000). Blindsided by that one' and 'i saw that one coming': the relative anticipation and occurrence of communication problems and other problems in implementer's hindsight. *Journal of Applied Communication Research*, 28(1), 44-67.

Liang, S., and Lu, H. (2013). Adoption of e-government services: an empirical study of the online tax filing system in Taiwan. *Online Information Review*, 37(3), 424-442.

Lim, B., and Ployhart, R. (2004). Transformational leadership: Relations to the five-factor model and team performance in typical and maximum contexts. *Journal of Applied Psychology*, 89(4), 610–621.

Lim, L., Garnsey, E., and Gregory, M. (2006). Product and process innovation in biopharmaceuticals: a new perspective on development. *R&D Management*, 36(1), 27–36.

Lin, H., and Su, J. (2014). A case study on adoptive management innovation in China. *Journal of Organizational Change Management*, 27(1), 81–114.

Linton, J.D., and Walsh, S.T. (2008). A theory of innovation for process-based innovations such as nanotechnology. *Technological Forecasting and Social Change*, 75(5), 583–594.

Little, T. D., Cunningham, W. A., Shahar, G., and Widaman, K. F. (2002). To parcel or not to parcel: Exploring the question, weighing the merits. *Structural Equation Modeling*, 9(2), 151−173.

Litwin, G.H., and Stringer, R.A. (1968). *Motivation and Organizational Climate*. Boston: Harvard University Press.

Liu, Y. (2010). *When Change Leadership Impacts Commitment to Change and When it Doesn't. A Multi-Level Multi- Dimensional Investigation (Doctoral Dissertation).* Georgia Institute of Technology.

Lorsch, J.W., and Maciver, E. (1989). *Pawns or Potentates: The Reality of America's Corporate Boards*. Cambridge, Massachusetts. Harvard Business Press.

Lundgren, T., and Zhou, W. (2017). Firm performance and the role of environmental management. *Journal of Environmental Management*, 203(1), 330-341.

Luo, X., Zhou, L., and Liu, S. S. (2005). Entrepreneurial firms in the context of China's economy: An integrative framework and empirical examination. *Journal of Business Research*, 58(3), 277-284.

Luthans, F. (1976). *Introduction to Management: A Contingency Approach*. New York: McGraw-Hill.

Luzzini, D., Brandon-Jones, E., Brandon-Jones, A., and Spina, G. (2015). From sustainability commitment to performance: The role of intra- and inter-firm collaborative capabilities in the upstream supply chain. *International Journal of Production Economics*, 165(1), 51–63.

Lynn, T.A. (1994). Learning from competition. *Journal of Accountancy February*, 177(2), 43-46.

Mahapatra, S.K., Das, A., and Narasimhan, R. (2012). A contingent theory of supplier management initiatives: effects of competitive intensity and product life cycle. *Journal of Operations Management*, 30(5), 406-422.

Maitree, W. (1999), "*The Needs and Characteristics Of A Sample of Micro and Small Enterprises (MSEs) in Thailand*," Working Paper 5, Micro and Small Enterprise Development & Poverty Alleviation in Thailand, Project ILO/UNDP:THA/99/003, July.

Malhotra, N. K., Ulgado, F. M., Agarwal, J., Shainesh, G., and Wu, L. (2005). Dimensions of service quality in developed and developing economies: Multi-country cross-cultural comparisons. *International Marketing Review*, 22(3), 256–278.

Maravelias, C. T., and Sung, C. (2009). Integration of production planning and scheduling: Overview, challenges and opportunities. *Computers and Chemical Engineering*, 33(12), 1919–1930.

Marqués, D., and Simón, F. (2006). The effect of knowledge management practices on firm performance. *Journal of Knowledge Management*, 10(3), 143-156.

Martin-de-Castro, G., Lopez-Saez, P., and Navas-Lopez, J. (2008). Processes of knowledge creation in knowledge-intensive firms: empirical evidence from Boston's Route 128 and Spain. *Technovation*, 8(4), 222–230.

Mason, C., and Perreault, W. (1991). Collinearity, power, and interpretation of multiple regression analysis. *Journal of Marketing Research*, 28(3), 268-280.

Mateljak. Z., and Mihanović. D. (2016). Operational planning level of development in production enterprises in the machine building industry and its impact on the effectiveness of production. *Economic Research-Ekonomska Istraživanja*, 29(1), 325-342.

McColl-Kennedy, J. R., and Anderson, R. D. (2002). Impact of leadership style and emotions on subordinate performance. *Leadership Quarterly*, 13(5), 545–59.

McGowan, A.S., and Klammer, T.P. (1997). Satisfaction with Activity-Based Cost Management Implementation. *Journal of Management Accounting Research*, 9(1), 217-237.

McNall, L., Masuda, A., and Nicklin, J. (2009). Flexible work arrangements, job satisfaction, and turnover intentions: The mediating role of work-to-family enrichment. *Journal of Psychology*, 144(1), 61–81.

Meutia, Ismail, and Tubagus. (2015). The influence of competitive pressure on innovative creativity. *Academy of Strategic Management Journal*, 14(2), 1-25.

Middleton, J., Harvey, S., and Esaki, N. (2015). Transformational Leadership and Organizational Change: How Do Leaders Approach Trauma-Informed Organizational Change…Twice?. *Families in Society: The Journal of Contemporary Social Services*, 96*(*3), 155–163.

Miles, R., and Snow, C. (1978). *Organizational Strategy, Structure, and Process*. New York: McGraw-Hill.

Miller, A., Radcliffe, D., and Isokangas, E. (2009). A perception-influence model for the management of technology implementation in construction. *Construction Innovation*, 9(2), 168-183.

Miller, D., and Friesen, P. H. (1986). Porter's (1980) generic strategies and performance: An empirical examination with American data. Part II: Performance implications. *Organization Studies*, 7(3), 255- 261.

Mintzberg, H., Ahlstrand, B., and Lampel, J. (2009). *Strategy Safari.* 2nd ed. New York: Prentice Hall.

Mishra, R., and Napier, R. (2015). Linking sustainability to quality management and firm performance. *International Journal of Business and Management*, 10(3), 1–14.

Mohr, L. B. (1971). Organizational technology and organizational structure. *Administrative Science Quarterly*, 16(4), 444-459.

Mol, M. J., and Birkinshaw, J. (2009). The sources of management innovation: When firms introduce new management practices. *Journal of Business Research*, 62(12), 1269–1280.

Moradinaftchali, V., Song, L., and Wang, X. (2016). Improvement in quality and productivity of an assembled product: A riskless approach. *Computers and Industrial Engineering*, 94(1), 74–82.

Morgan, N. A. (2012). Marketing and Business Performance. *Journal of the Academic Marketing Science, 40*(1), 102-119.

Mrayyan, M. T. (2008). Hospital organizational climates and nurses' intent to stay: Differences between units and wards. Contemporary Nurse. *A Journal for the Australian Nursing Profession*, *27*(2), 223–236.

Mullane, T. (2015). Definition of Operational Plans for a Business. [Online]. Available from: https://www.linkedin.com/pulse/definition-operational-plans-business-terry-mullane.[accessed, December 10, 2015].

Muzyka, D., De Koning, A., and Churchill, N. (1995). On transformation and adaptation: Building the entrepreneurial corporation. *European Management Journal*, 13(4), 346-362.

Nadkarni, S., and Narayanan, V. K. (2007). Strategic schemas, strategic flexibility, and firm performance: the moderating role of industry clockspeed. *Strategic Management Journal*, 28(3), 243–270.

Nahm, A., Vonderembse, M., and Koufteros, X. (2003). The impact of organizational structure on time-based manufacturing and plant performance. *Journal of Operations Management*, 21(3), 281-306.

Nalau, J., and Handmer. J. (2015). When is transformation a viable policy alternative?. *Environmental Science and Policy*, 54(1), 349–356.

Narayanan, V. K., Yang, Y., and Zahra, S. A. (2009). Corporate venturing and value creation: A review and proposed framework. *Research Policy*, 38(1), 58-76.

Narver, J. C., and Slater, S. F. (1990). The Effect of a Market Orientation on Business Profitability. *Journal of Marketing*, 54(4), 20-35.

Nelson, H., Williamson, T., Macaulay, C., and Mahony, C. (2016). Assessing the potential for forest management practitioner participation in climate change adaptation. *Forest Ecology and Management*, 360(1), 388–399.

Nelson, R., and Winter, S. (1982). *An Evolutionary Theory of Economic Change*. Cambridge, Mass: Belknap Press.

Neuman, W.L. (2006*). Social Research Methods Qualitative and Quantitative Approaches*. 6th ed. USA. Pearson Education.

Newbert, S. L. (2005). New firm formation: A dynamic capability perspective. *Journal of Small Business Management*, 43(1), 55-77.

Ngowsiri, S., and Ussahawanitchakit, P. (2012). Inter-Firm Relationship Management Strategy and Firm Performance: Evidence from Electronic Parts and Equipment Manufacturing Businesses in Thailand. *Journal of Academy of Business and Economics*, 12(5). 153-168.

Nguyen, T., Mia, L., Winata, L., and Chong, V. (2017). Effect of transformational-leadership style and management control system on managerial performance. *Journal of Business Research*, 70(1), 202–213.

Nikolova, E. and Neycheva, M. (2014). *Strategic Behavior and Game Theory*. Burgas Free University, 102-145.

Nunnally, J. C. (1978). *Psychometric Theory*, USA, McGraw-Hill.

Nunnally, J. C. and Bernstein, I. H. (1994). *Psychometric Theory*. New York: McGraw Hill Inc.

O'Brien, K. (2012). Global environmental change II: from adaptation to deliberate transformation. *Progress in Human Geography*, 36(5), 667–676.

O'Brien, K., and Sygna, L. (2013). Responding to climate change: the three spheres of transformation. *Proceedings of Transformation in a Changing Climate*, Oslo, Norway. University of Oslo, 16-23.

O' Farrell, P. N., Wood, P. A., and Zheng, J. (1998). Internationalisation by business service firms: Towards a new regionally based conceptual framework. *Environment and Planning A*, 30(1), 109–128.

Office of Industrial Economics. (2016). *The Electronic and Electrical Appliance Business Overview*. [Online]. Available from: http://www.oie.go.th/ academic/index [accessed, February 15, 2016].

Olhager, J., and Selldin, E. (2007). Manufacturing planning and control approaches: market alignment and performance. *International Journal of Production Research*, 45(6), 1469-1484.

Ollo-Lopez, A., Bayo-Moriones, A., and Larraza-Kintana, M. (2010). The relationship between new work practices and employee effort. *Journal of Industrial Relations*, 52(2), 219–235.

Olson, E., Slater, S., and Hult, T. (2005). The performance implications of fit among business strategy, marketing organization structure, and strategic behavior. *Journal of Marketing*, 69(1), 49–65.

O'Reilly, C., and Tushman, M. (2008). Ambidexterity as a dynamic capability: Resolving the innovator's dilemma. *Research in Organizational Behavior*, 28(1), 185-206.

Ou, C., Davison, R., and Wong, L. (2016). Using interactive systems for knowledge sharing: The impact of individual contextual preferences in China. *Information & Management*, 53(2), 145–156.

Parente, D. H. (1998). Across the manufacturing-marketing interface Classification of significant research. *International Journal of Operations and Production Management*, 18(12), 1205-1222.

Parker, S. K., Bindl, U. K., and Strauss, K. (2010). Making things happen: A model of proactive motivation. *Journal of Management*, 36(4), 827-856.

Patterson, M. G., West, M. A., Shackleton, V. J., Dawson, J, F., Lawthom, L., Maitlis, S., Robinson, D. L., and Wallace, A. M. (2005). Validating the organizational climate measure: Links to managerial practices productivity and innovation. *Journal of Organizational Behavior*, 26(4), 379-408.

Pawar, B. S., and Eastman, K. K. (1997). The nature and implications of contextual influences on transformational leadership: A conceptual examination. *Academy of Management Review*, 22(1), 80–109.

Pelling, M. (2011). *Adaptation to Climate Change: From Resilience to Transformation*. London: Library of Congress Cataloguing in Publication Data.

Penrose, E. (1959). *The Theory of the Growth of the Firm.* 5th ed. Oxford: Oxford University Press.

Peters, T. J., and Waterman, R. H. (1984). *In Search of Excellence*. New York: Warner Books.

Pfeffer, J., and Salancik, G. R. (2003). *The External Control of Organizations: A Resource Dependence Perspective*. California: Stanford University Press.

Phokha, A., and Ussahawanitchakit, P. (2011). Marketing Leadership Strategy, Marketing Outcomes and Firm Sustainability: Evidence from Food product Businesses in Thailand. *International Journal of Strategic Management*, 11(3), 1-25.

Pinkse, J., and Kolk, A. (2012). Multinational enterprises and climate change: exploring institutional failures and embeddedness. *Journal of International Business Studies*, 43(3), 332-341.

Piorkowski, B., Evans, R., Martin, N., and Gao, X. (2013). A Dynamic Knowledge Management Framework for the High Value Manufacturing Industry. *International Journal of Production Research*, 51(7), 2176-2185.

Pisano, G. (1997). *The Development Factory: Unlocking the Potential of Process Innovation.* Boston: Harvard Business Press.

Plugge. A, Bouwman. H., and Molina-Castillo. F. (2013). Outsourcing capabilities, organizational structure and performance quality monitoring: Toward a fit model. *Information and Management*, 50(6), 275–284.

Pollard, C., and Morales, M. (2015). Exploring the Impact of Aligning Business and is Strategy Types on Performance in Small Firms. *Journal of Small Business Strategy*, 25(1), 26-45.

Pongpearchan, P., and Ussahawanitchakit, P. (2011). Strategic entrepreneurship management competency and firm success: A comparative study of SMEs in auto and electronic parts in Thailand. *International Journal of Business Strategy*, 11(2), 197-227.

Porras, J.I., and Hoffer, S.J. (1986). Common behavior changes in successful organization development efforts. *Journal of Applied Behavioral Science*, 22(4), 477–494.

Porter, M.E. (1980). *Competitive Strategy*. New York: Free Press.

———. (1985). *Competitive Advantage*. New York: Free Press.

Porter, M. E., and Reinhardt, F. L. (2007). A strategic approach to climate. *Harvard Business Review*, 85, 22–26.

Premkumara, G., and Bhattacherjeeb, A. (2008). Explaining information technology usage: A test of competing models. *Omega*, *36*(1), 64-75.

Price, A., & Chahal, K. (2006). A strategic framework for change management. *Construction Management and Economics*, 24(3), 237–251.

Prieto, I, M., Revilla, E., and Prado, B, R. (2009). Managing the knowledge paradox in product development, *Journal of Knowledge Management*, 13(3), 157-170.

Prungkiat, C., Pratoom, K., and Raksong, S. (2016). Strategic Organizational Knowledge Orientation and Firm Performance: An Empirical Research of Beverage Businesses in Thailand. *Au-gsb e-Journal*, 9(1), 104-123.

Putnam, L. L., Myers, K. K., and Gailliard, B. M. (2014). Examining the tensions in workplace flexibility and exploring options for new directions. *Human Relations*, 67(4), 413-440.

Qin, Y., Li, B., and Yu, L. (2015). Management innovations in a Chinese hotel company: the case of 7 Days Inn. *International Journal of Contemporary Hospitality Management*, 27(8), 1856-1880.

Quiggin, J. (2012). Stabilizing the Global Climate: A Simple and Robust Benefit-Cost Analysis. *American Journal of Agricultural Economics*, 94(2), 291-300.

Rahmana, N., Yaacobb, Z., and Radzic, R. (2016). An Overview of Technological Innovation on SME Survival: A Conceptual Paper. *Procedia - Social and Behavioral Sciences*, 224, 508-515.

Ray, G., Barney, J. B., and Muhanna, W. A. (2004). Capabilities, business processes, and competitive advantage: Choosing the dependent variable in empirical tests of the resource-based view. *Strategic Management Journal*, 25(1), 23-37.

Re, D., and Rule, N. (2016). Making a (False) Impression: The Role of Business Experience in First Impressions of CEO Leadership Ability. *Journal of Nonverbal Behavior*, 40(3), 235–245.

Reichstein, T., and Salter, A. (2006). Investigation the sources of process innovation among UK manufacturing firms. *Industrial and Corporate Change*, 15(4), 653–682.

Relicha, M., and Pawlewski, P. (2017). *A Case-Based Reasoning Approach to Cost Estimation of New Product Development*. [Online]. Available from: https://scholarsmine.mst.edu/cgi/viewcontent.cgi?article=5985&context=masters_theses. [accessed, June 17, 2017].

Roberts, P., and McEvily, S. (2005). Product-line expansion and resource cannibalization. *Journal of Economic Behavior and Organization*, 57*(*1), 49-70.

Rock, D. (2009). Managing with the brain in mind. *Oxford Leadership Journal*, 56(1), 1-10.

Rodrigues, A., Koeppl, H., Ohtsuki, H., and Satake, A. (2009). A game theoretical model of deforestation in human-environment relationships. *Journal of Theoretical Biology*, 258, 127–134.

Rogelberg, S. G., and Stanton, J. M. (2007). Understanding and dealing with organization survey nonresponse. *Organization Research Methods*, 10(2), 195-209.

Roland, T., Christine, M., and Peter, D. (2002). Getting Returns from Service Quality: Revenue Expansion, Cost Reduction, or Both?. *Journal of Marketing*, 66(4), 7-24.

Romme, A.G., Zollo, M., and Berends, P. (2010). Dynamic capabilities, deliberate learning and environmental dynamism: a simulation model. *Industrial and Corporate Change*, 19(4), 1271–1299.

Roy, P., and Roy, P. (2004). The Hewlett Packard-Compaq Computers Merger: Insight from the Resource-Based View and the Dynamic Capabilities Perspective. *Journal of American Academy of Business Cambridge*, 5(1/2), 7-14.

Sakalas, A., and Venskus, R. (2007). Interaction of learning organization and organizational structure. *Engineering Economics*, 3(53), 65-70.

Salunke, S., Weerawardena, J., and McColl-Kennedy, J.R. (2011). Towards a Model of Dynamic Capabilities in Innovation-Based Competitive Strategy: Insights from Project-Oriented Service Firms. *Industrial Marketing Management*, 40(8), 1251-1263.

Sanchez, R. (1995). Strategic flexibility in product competition. *Strategic Management Journal*, 16(5), 135-159.

Sanders, J., and Linderman, K. (2013). Process management, innovation and efficiency performance: The moderating effect of competitive intensity. *Business Process Management Journal*, 20(2), 335-358.

Sandhu, M., and Gunasekaran, A. (2004). Business process development in project-based industry. *Business Process Management Journal*, 10(6), 673 – 690.

Satpathy, B. (2008). Transformational Management and Karma-Yoga Linkage. *Sri Lankan Journal of Human Resource Management*, 2(1), 1-9.

Saunila, M., and Ukko, J. (2012). A conceptual framework for the measurement of innovation capability and its effects. *Baltic Journal of Management*, 7(4), 355-375.

Sauser, Brain J., Reilly, Richard R., and Shenhar, Aaron J. (2009). Why Projects Fail? How Contingency Theory can Provide New Insights – A Comparative Analysis of NASA's Mars Climate Orbiter Loss. *International Journal of Project Management*, 27(7), 665-679.

Schilke, O. (2014). No the Contingent Value of Dynamic Capabilities for Competitive Advantage: The Nonlinear Moderating Effect of Environmental Dynamism. *Strategic Management Journal*, 35(2), 179-203.

Schipper, F. (2005). Reflective knowledge management: some considerations. In Linstead, S. and Linstead, A. (Eds.), *Thinking organization* (pp.136-156). Oxon, UK: Routledge.

Schneidewind, U. (2013). Transformative Literacy. Understanding and Shaping Societal Transformations. *GAIA*, 22(2), 82–86.

Schoech, D. (2006). *Contingency Theory*. *UTA School of Social Work, Community and Administrative Practice*. [Online]. Availabe from: https://wweb.uta.edu/projects/sswtech/6371/coursepack/theory-contingency.pdf. [accessed, February 9, 2017].

Sengupta, S., Yavas, U., and Babakus, E. (2015). Interactive Effects of Personal and Organizational Resources on Frontline Bank Employees' Job Outcomes: The Mediating Role of Person-Job Fit. *International Journal of Bank Marketing*, 33(7), 884-903.

Shamir, B., and Howell, J. M. (1999). Organizational and contextual influences on the emergence and effectiveness of charismatic leadership. *Leadership Quarterly*, 10(2), 257–283.

Sharma, S., and Gupta, J. (2004). E-Strategy Model for Creating Flexible Organizations. *Global Journal of Flexible Systems Management*, 5(2&3), 1-9.

Shavarini, S., Salimian, H., Nazemi, J., and Alborzi, M. (2011). Operations strategy and business strategy alignment model (case of Iranian industries). *International Journal of Operations and Production Management*, 33(9), 1108-1130.

Shen, T., and Lai, J. (2014). Exploring the Relationship between Creative Test of ATTA and the Thinking of Creative Works, *Procedia - Social and Behavioral Sciences*, 112(1), 557-566.

Shieh, M., Yan, W., and Chen, C. (2008). Soliciting Customer requirements for product redesign based on picture sorts and ART2 neural network. *Expert Systems with Applications*, 34,194–204.

Shuen, A., Feiler, P., and Teece, D. (2014). Dynamic capabilities in the upstream oil and gas sector: managing next generation competition. *Energy Strategy Reviews*, 3(1), 5–13.

Singh, B.J., and Khanduja, D. (2010). DMAICT: a road map to quick change overs. *International Journal of Six Sigma and Competitive Advantage*, 6(1), 31–52.

Singh, R., Lobo, S., and Karwa, K. (2012). *Opportunities and Challenges in Consumer Electronics and Home Appliances*. [Online]. Available from: http://www.adlittle.com. [accessed, April 26, 2017].

Sirmon, D.G., Hitt, M.A., and Ireland, R.D. (2007). Managing firm resources in dynamic environments to create value: looking inside the black box. *Academy of Management Review*, 32(1), 273-292.

Sirkova, M., Taha, A., and Ferencova, M. (2014). An analytical study on organizational creativity: implications for management Polish, *Journal of Management Studies*, 10(2), 179-187.

Skalik, J. (2016). Strategic orientation in change management and using it when designing a company's development. *Management*, 20(1), 197-210.

Skilton, P. F. (2009). Knowledge based resources, property based resources and supplier bargaining power in Hollywood motion picture projects. *Journal of Business Research*, 62(8), 834-840.

Slawinski, N., and Bansal, P. (2012). A matter of time: The temporal perspectives of organizational responses to climate change. *Organization Studies*, 33(11), 1537–1563.

Small Business. (n.d.). *Definition of Transformational Management*. [Online}. Available from: http://smallbusiness.chron.com/definition-transformational-management-24540.html. [accessed, April 20, 2017].

Snell, S. (1992). Control Theory in Strategic Human Resource Management: The Mediating Effect of Administrative Information. *Academy of Management Journal*, 35(2), 292–327.

Soliman, F. (2011). Could One Transformational Leader Convert the Organization from Knowledge Based into Learning Organization, Then into Innovation?. *Journal of Modern Accounting and Auditing*, 7(12), 1352-1361.

Soltanizadeh, S., Rasid, S., Golshan, N., and Ismail, W. (2016). Business strategy, enterprise risk management and organizational performance. *Management Research Review*, 39(9), 1016-1033.

Sopelana, A., Kunc, M., and Hernaez, O. (2014). Towards a Dynamic Model of Organisational Flexibility. *Systemic Practice and Action Research*, 27(2), 165–183.

Spender, J.C. (1996). Making knowledge the basis of a dynamic theory of the firm. *Strategic Management Journal*, 17(2), 45-62.

Spackman, L. (2009). Nine steps to make process improvement permanent. *Quality Progress*, 23-28.

Sprengel, D., and Busch, T. (2010). Stakeholder engagement and environmental strategy – the case of climate change. *Business Strategy and the Environment*, 20(6), 351–364.

Sriboonlue, P., Ussahawanitchakit, P., and Raksong, S. (2016). Strategic Innovation Capability and Firm Sustainability: Evidence from Auto Parts Businesses in Thailand. *Journal of Business and Retail Management Research*, 10(2), 11-29.

Starik, M., and Kanashiro, P. (2013). Toward a theory of sustainability management: Uncovering and integrating the nearly obvious. *Organization & Environment*, 26(1), 7-30.

Stechemesser, K., Bergmann, A., and Guenther, E. (2015). Organizational climate accounting - financial consequences of climate change impacts and climate change adaptation. *Corporate Carbon and Climate Accounting*, 27(4), 217-242.

Stern, N. (2007). *The Economics of Climate Change: the Stern Review*. Cambridge: Cambridge University Press.

Stevens, J. (2002). *Applied Multivariate Statistics for the Social Sciences*. 4th ed. London: Lawence Erlbaum Associates.

Stock, G., and Tatikonda, M. (2004). External technology integration in product and process development. *International Journal of Operations and Production Management*, 24(7), 642-665.

Stockport, G. J. (2000). Developing skills in strategic transformation. *European Journal of Innovation Management*, 3(1), 45–52.

Stoner, J., Freeman, R., and Gilbert Jr., D. (1995). *Management.* 6th ed. Englewood Cliffs, New Jersey: Prentice-Hall.

Subedi, K. (2004). *Modern Concept of Management*, Nepal: Shahid Gangalal National Heart Center.

Sutevski, D. (2014). *Management Tasks That Matter the Most for Your Company*. [Omline]. Available from: http://www.entrepreneurshipinabox.com/729/11-important-tasks-managers/. [accessed, June 3, 2017].

Tahaa, V., Teja, J., and Sirkova, M. (2015). Creative management techniques and methods as a part of the management education: analytical study on students' perceptions. *Procedia - Social and Behavioral Sciences*, 197(1), 1918-1925.

Taherilari, M. (1998), *Management of Organizational Change and Transformation*, Tehran (in Persian): Derakhshesh Publication.

Tanriverdi, H., and Venkatraman, N. (2005). Knowledge relatedness and the performance of multibusiness firms. *Strategic Management Journal*, 26(2), 97-119.

Tai, Y. (2017). Effects of product lifecycle management systems on new product development performance, Journal of engineering and technology management, *Journal of Engineering and Technology Management*, 46, 67-83.

Tallon, P. (2008). Inside the adaptive enterprise: an information technology capabilities perspective on business process agility. *Information Technology and Management*, 9(1), 21–36.

Taylor, F.W. (1911). *Shop Management.* New York: Harper and Brothers.

Techakanjanakit, S., and Huang, M. (2012). The strategic transformation of automobile industry in China. *International Journal of Financial Research*, 3(3), 8-16.

Teece, D.J. (2001). Strategies for managing knowledge assets: the role of firm structure and industrial context. *Long Range Planning*, 33(1), 35–54.

———. (2007). Explicating dynamic capabilities: The nature and microfoundations of (sustainable) enterprise performance. *Strategic Management Journal*, 28(13), 1319–1350.

———. (2010*).* Business Model, Business Strategy and Innovation, *Long Range Planning*, 43(2-3), 172-194.

———. (2014). The foundations of enterprise performance: Dynamic and ordinary capabilities in an (economic) theory of firms. *The Academy of Management Perspectives*, 28(4), 328–352.

Teece, D. J., Pisano, G., and Shuen, A. (1997). Dynamic capabilities and strategic management. *Strategic Management Journal*, 18(7), 509–533.

Termeer, C., Teisman, G., Nooteboom, S., and Deelstra, Y. (2013). Climate adaptation leadership between small adjustments and transformative change. The case of the Dutch Delta Program. *Paper Presented at the ECPR General Conference, Bordeaux*, 1-13.

Thome, A., Scavarda, L., Fernandez, N., and Scavarda, A. (2012). Sales and operations planning and the firm performance. *International Journal of Productivity and Performance Management*, 6(4), 359-381.

Thompson, D. (1967). *Organizations in Action.* New York: Mc Graw-Hill Book Company.

Tontiset, N., and Ussahawanitchakit, P. (2010). Building Successful Cost Accounting Implementation of Electronics Manufacturing Businesses in Thailand: How Do Its Antecedents and Consequences Play a Significant Role?. *Journal of Academy of Business and Economics*, 10(3), 1-25.

Townley, B., and Beech, N. (2010). *Managing Creativity: Exploring the Paradox*. Cambridge: Cambridge University Press,

Tsai, K.H., and Yang, S.Y. (2013). Firm innovativeness and business performance: the joint moderating effects of market turbulence and competition. *Industrial Marketing Management*, 42(8), 1279-1294.

Tshibalo, L., Mariga, M., Mokoena, S., and Mzini, L. (2015). Assessing the state of readiness of resource allocation for xenophobic prevalence in South Africa, *SAAPAM 4th Annual Conference Proceedings – Limpopo Chapter*, 998-1012.

Tuan, N.P. and Yoshi, T. (2010). Organisational Capabilities, Competitive Advantage and Performance in Supporting Industries in Vietnam. *Asian Academy of Management Journal*, 15(1), 1-21.

Turner, D., and Lankford, W. (2005). Information technology infrastructure: A historical perspective of flexibility. *Journal of Information Technology Management*, 16(2), 37-47.

Tyulkova, N. (2014). *A Flexible Organizational Structure as a way of Knowledge Management in SMEs*. Proceedings of the 11th International Conference on Intellectual Capital, Knowledge Management and Organisational Learning, 549-557.

Tzokas, N., Saren, M., and Brownlie, D. (1997). Generating marketing resources by means of R&D activities in high technology firms. *Industrial Marketing Management*, 26(4), 331-340.

Ussahawanitchakit, P. (2007). Innovation Capability and Export Performance: An Empirical Study of Textile Business in Thailand. *International Journal of Business Strategy*, 6(1), 1-9.

Utterback, J., and Abernathy, W. (1975). A dynamic model of process and product innovation. *Omega, 3*(6), 639–656.

Vaccaro, I., Jansen, J., Van Den Bosch, F., and Volberda, H. (2012). Management Innovation and Leadership: The Moderating Role of Organizational Size. *Journal of Management Studies*, 49(1), 28–51.

Varzaru, M. (2013). Knowledge management and organisational structure design process. *Annales Universitatis Apulensis Series Oeconomica*, 15(2), 716-724.

Vassolo, R. S., and Anand, J. (2007). An examination of dynamic capabilities: Is evolutionary theory underdetermined?. *Management Research*, 6(1), 47-62.

Venkatesh, V. (2000). Determinants of perceived ease of use: integrating control, intrinsic motivation, and emotion into the technology acceptance model. *Information Systems Research*, 11(4), 342–365.

Venkatraman, N., and Camillus, J. (1984). Exploring the concept of "Fit" in strategic management. *Academy of Management Review*, 9(3), 513-525.

Verdu, A. J., and Gomez-Gras, J.M. (2009). Measuring the organizational responsiveness through managerial flexibility. *Journal of Organizational Change Management*, 22(6), 668-690.

Verona, G. (1999). A resource-based view of product development. *Academy of Management Review*, 24(1), 132-142.

Vithessonthi, C., and Thoumrungroje. A. (2011). Strategic change and firm performance: the moderating effect of organizational learning. *Journal of Asia Business Studies*, 5(2), 194-210.

Volberda, H. (1996). Toward the flexible form: How to remain vital in hypercompetitive environments. *Organization Science*, 7(4), 359-374.

Volberda, H., Ende, J., Van den, Ark, H., Rotmans, J., Soete, L., and De Vries, N. (2007). What matters most for innovation? Multi-level complementarities between knowledge creation, transfer and utilization. *Proposal for NWO-MaGW strategic theme*. 32-42.

Volberda, H., Van Den Bosch, F., and Heij, C. (2013). Management Innovation: Management as Fertile Ground for Innovation. *European Management Review*, 10(1), 1–15.

Volberda, H., Van den Bosch, F., and Jansen, J. (2006). Exploratory innovation, exploitative innovation, and performance: Effects of organizational antecedents and environmental moderators. *Management Science*, 52(11), 1661-1674.

Volberda, H., and Van den Bosch, F. (2005). *Why Management Matters Most.* Netherlands, Rotterdam: Erasmus Research Institute of Management.

Waddell, D., Jones, G. R., and George, J. (2013). *Contemporary Management*. 3rd ed. North Ryde, New South Wales: McGraw-Hill.

Wallace, W., and Kreutzfeldt, R. (1991). Distinctive characteristics of entities with an internal audit department and the association of the quality of such departments with errors. *Contemporary Accounting Research*, 7(2), 485-512.

Walker, R., Chen, J., and Aravind, D. (2015). Management innovation and firm performance: An integration of research findings. *European Management Journal*, 33(5), 407-422.

Walker, R., Damanpour, F., and Devece, C. A. (2011). Management innovation and organizational performance: The mediating effect of performance management. *Journal of Public Administration Research and Theory*, 21(2), 367-386.

Walsha, K., Kitsonb, A., Crossc, W., Thomsd, D., Thorntone, A., Mossf, C., Campbellg, S., and Grahamh, I. (2012). A conversation about practice development and knowledge translation as mechanisms to align the academic and clinical contexts for the advancement of nursing practice. *Collegian*, 19(2), 67–75.

Wang, C. L., and Ahmed, P. K. (2007). Dynamic capabilities: a review and research agenda. *The International Journal of Management Reviews*, 9(1), 31-51.

Wang, G., Oh, I.-S., Courtright, S. H., and Colbert, A. E. (2011). Transformational leadership and performance across criteria and levels: A meta-analytic review of 25 years of research. *Group and Organization Management*, 36(2), 223–270.

Wang, Y., and Ahmed, P. (2009). The moderating effect of the business strategic orientation on e-Commerce adoption: Evidence from UK family run SMEs. *Journal of Strategic Information Systems*, 18(1), 16–30.

Way, S. A., Tracey, J. B., Fay, C. H., Wright, P. M., Snell, S. A., Chang, S., and Gong, Y. (2015). Validation of a multidimensional HR flexibility measure. *Journal of Management*, 41(4), 1098-1131.

Weber, M. (2002). *The Protestant Ethic and the Spirit of Capitalism*. New York: Penguin Books.

Weerawardena, J., and Mavondo, F.T. (2011). Capabilities, innovation and competitive advantage. *Industrial Marketing Management*, 40(8), 1220-1223.

Weerawardena, J., O'Cass, A., and Craig. J. (2006). Does industry matter? Examining the role of industry structure and organizational learning in innovation and brand performance. *Journal of Business Research*, 59(1), 37–45.

Weiner, B. (2009). A theory of organizational readiness for change. *Implementation Science*, 4(67), 67-75.

Weinhofer, G., and Busch, T. (2013). Corporate strategies for managing climate risks. *Business Strategy and the Environment*, 22(2), 121-144.

Weinhofer, G., and Hoffmann, V. (2010). Mitigating climate change – how do corporate strategies differ?. *Business Strategy and the Environment*, 19(2), 77–89.

Weisenfeld-Schenk, U. (1994). Technology strategies and the Miles and Snow typology: A study of the biotechnology industry. *R&D Management*, 24(1), 57–64.

Werr, A. (1995). Approaches, methods and tools of change a literature survey and bibliography. *Economic and Industrial Democracy*, 16(4), 607-651.

Werr, A., Stjernberg, T., and Docherty, P. (1997). The functions of methods of change in management consulting. *Journal of Organizational Change Management*, 10(4), 288 – 307.

West, G.P., and Noel, T.W. (2009). The impact of knowledge resources on new venture performance. *Journal of Small Business Management*, 47(1), 1-22.

White, C., Costello, C., Kendall, B.E., and Brown, C.J. (2012). The value of coordinated management of interacting ecosystem services. *Ecology Letters*, 15(1), 509–519.

Wilden, R., and Gudergan, S. P. (2014). The impact of dynamic capabilities on operational marketing and technological capabilities: investigating the role of environmental turbulence. *Journal of the Academy of Marketing Science*, 43(2), 181–199.

Wilden, R., Gudergan, S.P., Nielsen, B.B., and Lings, I. (2013). Dynamic capabilities and performance: Strategy, structure and environment. *Long Range Planning*, 46(1-2), 72–96.

Wilson, H., and Daniel, E. (2007). The multi-channel challenge: A dynamic capability approach. *Industrial Marketing Management*, 36(1), 10-20.

Winter, S. (2003). Understanding dynamic capabilities. *Strategic Management Journal*, 24(10), 991-995.

Wittneben, B. F., Okereke, C., Banerjee, S. B., and Levy, D. L. (2012). Climate Change and the Emergence of New Organizational Landscapes. *Organization Studies*, 33(11), 1431-1450.

Wochner, S., Grunow, M., Staeblein, T., and Stolletz, R. (2016). Planning for ramp-ups and new product introductions in the automotive industry: Extending sales and operations planning. *International Journal of Production Economics*, 182(1), 372–383.

Wong, K. Y. (2005). Critical success factors for implementing knowledge management in small and medium enterprises. *Industrial Management & Data Systems*, 105(3), 261-279.

Woodward, J. (1965). *Industrial Organisation: Theory and Practice*. London: Oxford University Press.

Wu, C., and Parker, S. (2013). Thinking and Acting in Anticipation: A Review of Research on Proactive Behavior. *Advances in Psychological Science*, 21(4), 679-700.

Wu, F., and Cavusgil, S. T. (2006). Organizational learning, commitment, and joint value creation in interfirm relationship. *Journal of Business Research*, 59(1), 81-89.

Wu, L.Y. (2010). Which companies should implement management innovation? A commentary essay. *Journal of Business Research*, 63(3), 321-323.

Yamane, T. (1973). Statistics: *An Introductory analysis*. 3rd ed. New York: Harper & Row.

Yang, Y., Lee, P., and Cheng, E. (2017). Leveraging selected operational improvement practices to achieve both efficiency and creativity: A multi-level study in frontline service operations. *International Journal of Production Economics*, 191(1), 298–310.

Yarbrough, a., and Smith, T. (2007). Technology acceptance among physicians: a new take on TAM. *Medical Care Research and Review*, 64(6), 650-672.

York, J. G., and Venkataraman, S. (2010). The entrepreneur-environment nexus: Uncertainty, innovation, and allocation. *Journal of Business Venturing*, 25(5), 449–463.

Yu, Dennis Z., Tang, Sammi Y., and Niederhoff. (2011). On the Benefits of Operational Flexibility in A Distribution Network with Transshipment Omega. *The International Journal of Management Science*, 39(3), 350-361.

Yukl, G. (1994). *Leadership in Organizations*. 3rd ed. Englewood Cliffs, New Jersey: Prentice Hall.

Yun-kui, X., Da-qing, Q., and Hua-ning, W. (2005). The analysis for current situations of strategic implementation and crucial factors of strategic implementation power of firms in China (in Chinese). *Management Word*, 9(1), 88-98.

Zare, M., Azzar, S., Mardani, A., and Arein, M. (2015). From change to organizational transformation A survey of Tehran Medical Science University's libraries. *Library Management*, 36(1/2), 157-167.

Zehira, C., Canb, E., and Karaboga, T. (2015). Linking entrepreneurial orientation to firm performance: the role of differentiation strategy and innovation performance. *Procedia - Social and Behavioral Sciences,* 210, 358-367.

Zeithaml, V. A., Parasuraman, A., and Malhotra, A. (2002). Service quality delivery through web sites: A critical review of extant knowledge. *Journal of the Academy of Marketing Science*, 30(4), 362–375.

Zhang, J., Beatty, S. E., and Walsh, G. (2008). Review and future directions of cross-cultural consumer services research. *Journal of Business Research*, 61(3), 211–224.

Zhao, Y., Lu, Y., and Wang, X. (2013). Organizational unlearning and organizational relearning: a dynamic process of knowledge management. *Journal of Knowledge Management.* 17(6), 902-912.

Zhou, K. Z. (2006). Innovation, imitation, and new product performance: The Case of China. *Industrial Marketing Management*, 35(3), 394-402.

Zhou, K. Z., and Li, C. B. (2010). How strategic Orientations Influence the Building of Dynamic Capability in Emerging Economics. *Journal of Business Research*, 63(3), 224-231.

Zhu, Q., Liu, J., and Lai, K. (2016). Corporate social responsibility practices and performance improvement among Chinese national state-owned enterprises. *International Journal of Production Economics*, 17(3), 417-426

Zollo, M., and Winter, S. (2002). Deliberate learning and the evolution of dynamic capabilities. *Organization Science*, 13(3), 339-351.

Zolnik, E. J., and Sutter, R. (2010). Workforce management innovations in transportation agencies: overcoming obstacles to public sector innovation. *The Innovation Journal: The Public Sector Innovation Journal*, 15(1), 2-15.

Zou, S., and Cavusgil, S. T. (1996). Global strategy: a review and an integrated conceptual framework. *European journal of marketing*, 30(1), 52–69.

APPENDICES

APPENDIX A

The Original Items

Table 1A: Original Items in Scales

Construct	Items
Proactive Operational Planning Competency (POPC)	
POPC1	Firm believes that operational planning which place important on the future will help firm to see clear goal and consistent to the situation well.
POPC2	Firm places important on situational analyzing in present and future competition which will help firm to set the direction and goal in operation to be clearer.
POPC3	Firm emphasizes in operational trend research and future operation which can set the operational and vision and they will be more and concentrate systematic.
POPC4	Firm concentrates to set the operational policy to be consistent with situation which will help firm to have better operation.
Flexible Organization Structure Focus (FOSF)	
FOSF1	Firm believes that operational structure which is flexible and consistent with situation will enhance firm's success.
FOSF2	Firm supports work integrating systematically between employees which will develop process and the direction of operation.
FOSF3	Firm continuously encourage employee to combine and integrate their operation which the firm operation will be more effectively.
FOSF4	Firm places important on experienced and skill full employee's for creating the way in management which will help firm to have better operation.
Modern Management Innovation Capability (MMIC)	
MMIC1	Firm believes that modern management innovation capability which will develop the new process of working.
MMIC2	Firm supports employee to create and improve technique and the way to modern operation continuously which will enhance the operation to be more effective.
MMIC3	Firm supports employees to integrate technique and modern management which will enhance the operation to be more effective.
MMIC4	Firm emphasizes in integrating modern technology in management which will enhance the management process to be more effective.

Table 1A: Original Items in Scales (continued)

Construct	Items
Dynamic Business Strategy Application (DBSA)	
DBSA1	Firm believes that work strategy which is consistent with situation will create effective operational process.
DBSA2	Firm emphasizes in set operation to be consistent with situation change continuously which will improve operation and enhance work effective.
DBSA3	Firm supports strategy integrating in systematic operation which will enhance the operation to be more effective.
DBSA4	Firm supports environment and event analyzing in continuously present and future which will help firm to management risk and unstable situation.
Managerial Technological Implementation Orientation (MTIO)	
MTIO1	Firm believes that good technology in management will enhance firm's success.
MTIO2	Firm places important on budget allocating for technology investment will help firm to development operation to be more effective.
MTIO3	Firm emphasizes in implementing modern technology continuously will help operation process to be more effective.
MTIO4	Firm supports employees to learn and understand modern technology continuously which will improve firm's operation.
Valuable Practice Improvement (VPI)	
VPI1	Firm develop the way of good operation.
VPI2	Firm has technique and new way of operation.
VPI3	Firm has better operation and it is consistent with many situations.
VPI4	Firm has various way of operation.
New Process Development (NPD)	
NPD1	Firm has more effective operational process.
NPD2	Firm is able to develop process in responding to customer needs beyond its competitors.
NPD3	Firm is able to develop and create the new operational process since the past until today and continue to the future.
NPD4	Firm develops the new process which is different and outstanding from its competitors.

Table 1A: Original Items in Scales (continued)

Construct	Items
Working Method Creation (WMC)	
WMC1	Firm develops technique and working method continuously.
WMC2	Firm has effective working method and has lowest cost in operation.
WMC3	Firm implements modern, quick and effective working method.
WMC4	Firm adapts working method to achieve its goal faster.
Firm Performance (FP)	
FP1	Firm has an operation follow its goal and objectives effectively.
FP2	Firm has more market share continuously.
FP3	Firm has old and new customer continuously.
FP4	Firm has more profit than last year.
FP5	Firm has financial and non-financial performance.
Firm Sustainability (FSUS)	
FSUS1	Firm totally believes that firm is able to operate effectively in the future.
FSUS2	Firm earns greater financial performance and more outstanding than its competitors.
FSUS3	Firm has permanent and stable performance and it will be able to continue operation in the long term.
FSUS4	Firm is able to operate under changeable situation effectively.
FSUS5	No matter what, firm totally believes that it will be able to encounter with those situation well.
Continuous Adaptation Leadership (CAL)	
CAL1	Firm believes leadership consistent with situation which will help firm to set policy and to operate the firm better.
CAL2	Firm supports change learning for leader in the present and in the future which will help firm to plan the operation to consistent with situation better.
CAL3	Firm supports the leader to follow situation regularly which will help form to adapt itself to many situation.
CAL4	Firm emphasizes in analyzing advantage and disadvantage of the situation which will help to set the firm strategy effectively.

Table 1A: Original Items in Scales (continued)

Construct	Items
Dynamic Knowledge Management (DKM)	
DKM1	Firm believes that well knowledge management which help firm to operate under changing situation better.
DKM2	Firm supports knowledge exchanging between the leader and employees which will help firm to operate better.
DKM3	Firm supports knowledge sharing between the leader and employees which will help firm to operate successfully.
DKM4	Firm supports knowledge integration which will help firm to operate better.
Organizational Resource Readiness (ORR)	
ORR1	Firm believes that readiness in asset and resources will help firm operate itself better.
ORR2	Firm places important on knowledge development systematically of employee which will help firm to achieve it goal.
ORR3	Firm emphasizes in budget allocation of all department which will help firm to follow its plan effectively.
ORR4	Firm emphasizes in technology investment of management which will help firm to manage resources effectively.
Best Business Experience (BBE)	
BBE1	Firm believes that having best business experience will help firm to plan and set direction in operate in the present and the future.
BBE2	Firm supports employees to use their experiences as the guideline in operating in the present which will help them to learn and set the working direction.
BBE3	Firm supports making experience database of employees working which will help firm to use experience database for planning easier.
BBE4	Firm emphasizes in implementing knowledge in the past can be use to develop policy of firm in the present and in the future will help firm to achieve goal well.

Table 1A: Original Items in Scales (continued)

Construct	Items
Competitive Pressure Intensity (CPI)	
CPI1	In the pressure intensity competition, the firm has to find the new good and effective strategy in operation in order to operate well
CPI2	Since competitors have better competency, firm has to emphasize in knowledge development in order to operate successfully.
CPI3	Since technology changes fast, firm has to learn and understand the changed technology in order to get the benefit from technology.
CPI4	Since uncertain market, firm has to emphasizes in developing and improving technique and strategy in operation in order to response to uncertain market better.
Change Climate (CC)	
CC1	Firm believes change climate of operation in the present will help firm to develop operation continuously.
CC2	Firm places important the changes that can occur in the present and the future which will help firm to adapt direction and operation orientation.
CC3	Firm supports employee to learn the changes that occur will help firm to manage uncertain able situation effectively.
CC4	Firm places important on analyzing, forecast, and predicting opportunity and operation in the future will help firm to operate effectively.

APPENDIX B

Item Factor Loadings and Reliability Analyses in Pre-Test

Table 1B: Item Factor Loading and Reliability Analysis in Pre-Test[a]

Construct	Items	Factor Loading	Reliability (Alpha)
Proactive Operational Planning Competency (POPC)	POPC1	0.849	0.822
	POPC2	0.949	
	POPC3	0.882	
	POPC4	0.918	
Flexible Organization Structure Focus (FOSF)	FOSF1	0.895	0.816
	FOSF2	0.955	
	FOSF3	0.937	
	FOSF4	0.796	
Modern Management Innovation Capability (MMIC)	MMIC1	0.878	0.781
	MMIC2	0.846	
	MMIC3	0.905	
	MMIC4	0.877	
Dynamic Business Strategy Application (DBSA)	DBSA1	0.817	0.771
	DBSA2	0.950	
	DBSA3	0.878	
	DBSA1	0.935	
Managerial Technological Implementation Orientation (MTIO)	MTIO1	0.899	0.819
	MTIO2	0.930	
	MTIO3	0.905	
	MTIO4	0.916	
Valuable Practice Improvement (VPI)	VPI1	0.909	0.802
	VPI2	0.937	
	VPI3	0.920	
	VPI4	0.961	
New Process Development (NPD)	NPD1	0.922	0.857
	NPD2	0.930	
	NPD3	0.915	
	NPD4	0.919	

Table 1B: Item Factor Loading and Reliability Analysis in Pre-Test[a] (Continued)

Construct	Items	Factor Loading	Reliability (Alpha)
Working Method Creation (WMC)	WMC1	0.930	0.819
	WMC2	0.937	
	WMC3	0.926	
	WMC4	0.877	
Firm Performance (FP)	FP1	0.829	0.854
	FP2	0.851	
	FP3	0.894	
	FP4	0.931	
	FP5	0.900	
Firm Sustainability (FSUS)	FSUS1	0.849	0.840
	FSUS2	0.804	
	FSUS3	0.965	
	FSUS4	0.976	
	FSUS5	0.910	
Continuous Adaptation Leadership (CAL)	CAL1	0.745	0.827
	CAL2	0.938	
	CAL3	0.913	
	CAL4	0.928	
Dynamic Knowledge Management (DKM)	DKM1	0.741	0.750
	DKM2	0.919	
	DKM3	0.893	
	DKM4	0.888	
Organizational Resource Readiness (ORR)	ORR1	0.742	0.783
	ORR2	0.909	
	ORR3	0.850	
	ORR4	0.842	

Table 1B: Item Factor Loading and Reliability Analysis in Pre-Test[a] (Continued)

Construct	Items	Factor Loading	Reliability (Alpha)
Best Business Experience (BBE)	BBE1	0.867	0.774
	BBE2	0.879	
	BBE3	0.798	
	BBE4	0.919	
Competitive Pressure Intensity (CPI)	CPI1	0.854	0.790
	CPI2	0.859	
	CPI3	0.919	
	CPI4	0.887	
Change Climate (CC)	CC1	0.862	0.740
	CC2	0.876	
	CC3	0.850	
	CC4	0.893	

[a]n=30

APPENDIX C

Key Participant Characteristics

Table 1C: Key Participant Characteristics

Description	Categories	Frequency	Percentage
Gender	Male	101	60.48
	Female	66	39.52
	Total	167	100.00
Age	Less than 30 years old	12	7.19
	30 – 40 years old	28	16.77
	41 – 50 years old	86	51.50
	More than 50 years old	41	24.54
	Total	167	100.00
Marital Status	Single	49	29.34
	Married	104	62.28
	Divorced/Separated	14	8.38
	Total	167	100.00
Education levels	Bachelor's degree or lower	125	74.85
	Higher than Bachelor's degree	42	25.15
	Total	167	100.00
Work Experience	Less than 10 years	31	18.56
	10 – 20 years	63	37.72
	21 – 30 years	56	33.54
	More than 30 years	17	10.18
	Total	167	100.00
Average monthly income at present	Less than 125,000 Baht	74	44.31
	125,001 – 150,000 Baht	49	29.34
	150,001 – 175,000 Baht	32	19.16
	More than 175,000 Baht	12	7.19
	Total	167	100.00
Current Position	Managing director	106	63.50
	Managing partner	38	22.81
	Other	23	13.69
	Total	167	100.00

APPENDIXD D

Demographic of Firm Characteristics

Table 1D: Characteristics of the Electronic and Electrical Appliance Business

Description	Categories	Frequency	Percentage
Type of business	Company	133	79.64
	Partnership	34	20.36
	Total	167	100.00
Industrial category	Household appliances Electric	50	29.94
	Light bulb	35	20.96
	Wire and electric cable	16	9.58
	Integrated circuit and electronics	18	10.78
	Amplifier	11	6.59
	Thermal insulation	6	3.59
	Other (breaker and electric motor)	31	18.56
	Total	167	100.00
Business Location	Northern Region	17	10.18
	Southern Region	15	8.98
	Eastern Region	35	20.96
	Western region	10	5.99
	Northeastern Region	25	14.97
	Central Region	22	13.17
	Bangkok	43	25.75
	Total	167	100.00
Number of employees	Less than 50 employees	60	35.93
	50-100 employees	62	37.13
	101-200 employees	32	19.16
	More than 200 employees	13	7.78
	Total	167	100.00

Table 1D: Characteristics of the Electronic and Electrical Appliance Business (Continues)

Description	Categories	Frequency	Percentage
Operation capital	Less than 25,000,000 Baht	83	49.70
	25,000,000 - 50,000,000 Baht	46	27.54
	50,000,001 - 75,000,000 Baht	22	13.18
	More than 75,000,000 Baht	16	9.58
	Total	167	100.00
Operating periods	Less than 10 years	42	25.15
	10-15 years	64	38.32
	16-20 years	42	25.15
	More than 20 years	19	11.38
	Total	167	100.00
Firm average revenue per year	Less than 50,000,000 Baht	81	48.50
	50,000,000 – 100,000,000 Baht	34	20.36
	100,000,001 – 150,000,000 Baht	32	19.16
	More than 150,000,000 Baht	20	11.98
	Total	167	100.00
Major customer	Domestic	153	91.62
	Foreign	14	8.38
	Total	167	100.00

APPENDIX E

Non-Response Bias Tests

Table 1E Non-Response Bias Tests

Table 1E: Chi-Square Statistic

Comparison	First Group	Second Group	Value	Pearson Chi-Square Asymp. Sig. (2-sided)
Type of business			0.609	0.435
• Companies	67	17		
• Partnership	62	21		
Total	84	83		
Industrial category			3.383	0.760
• Household appliances Electric	27	23		
• Light bulb	17	18		
• Wire and electric cable	9	7		
• Integrated circuit and electronics	9	9		
• Amplifier	5	6		
• Thermal insulation	1	5		
• Other	16	15		
Total	84	83		
Business Location			3.944	0.684
• Northern Region	8	9		
• Southern Region	5	10		
• Eastern Region	20	15		
• Western region	6	4		
• Northeastern Region	11	14		
• Central Region	13	9		
• Bangkok	21	22		
Total	84	83		
Number of employees			2.659	0.447
• Less than 50 employees	32	28		
• 50-100 employees	34	28		
• 101--200 employees	13	29		
• More than 200 employees	5	8		
Total	84	83		

Table 1E: Chi-Square Statistic (Continued)

Comparison	First Group	Second Group	Value	Pearson Chi-Square Asymp. Sig. (2-sided)
Operation capital			3.080	0.379
• Less than 25,000,000 Baht	43	40		
• 25,000,000 - 50,000,000 Baht	23	23		
• 50,000,001 - 75,000,000 Baht	13	9		
• More than 75,000,000 Baht	5	11		
Total	84	83		
Operating periods			1.466	0.690
• Less than 10 years	18	24		
• 10-15 years	35	29		
• 16-20 years	21	21		
• More than 20 years	10	9		
Total	84	83		
Firm average revenue per year			3.201	0.362
• Less than 50,000,000 Baht	45	36		
• 50,000,000 – 100,000,000 Baht	13	26		
• 100,000,001 – 150,000,000 Baht	17	15		
• More than 150,000,000 Baht	9	11		
Total	84	83		
Major customer			2.886	0.089
• Domestic	80	73		
• Foreign	4	10		
Total	84	83		

APPENDIX F

Test the Assumption of Regression Analysis

Appendix F-Results of testing the basic assumption of regression analysis

Regression analysis (OLS) is used to test the interrelationship between various independent and dependent variables by SPSS program. From the relation model and the hypotheses, the following 17 equation models are presented including assumptions of regression model as follows: 1) Linearity of phenomenon measured, 2) Constant variance of the error terms (Homoscedasticity), 3) Normality of the error term distribution, 4) Independence of the error terms, and 5) Test of Multicollinearity. The results of testing are shown as follow:

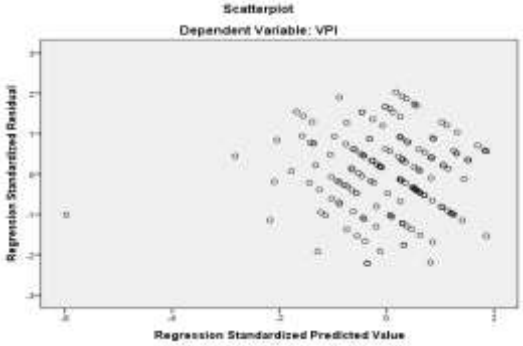
1. Linearity of phenomenon measured

Linearity is an statistical agreement about the relationship between independent variables and dependent variable whether the relationship are linear in nature or not. If the relationship between independent variables and the dependent variable is not linear, the results of the regression analysis will under-estimate the true relationship. The linearity of the dependent – independent variables relationship describes the degree change in the dependent variable as related to the independent variable. A preferable method of detection is an examination of residual plots is used (plots of standardized residuals as a function of standardized predicted values, readily available in most statistical software). The results of linearity testing do not demonstrate any nonlinear pattern to the residuals. Thus, the relationships between dependent variable and independent variables of each model are linearity.

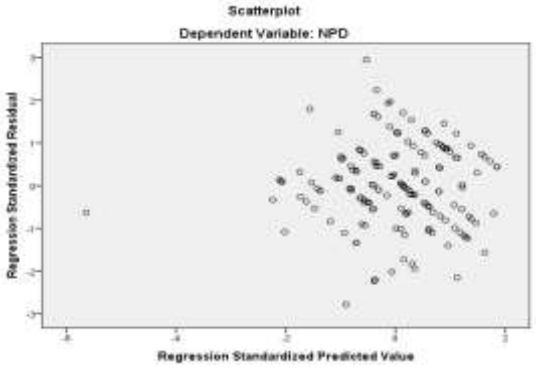
2. Test of constant variance of the error terms (Homoscedasticity)

Homoscedasticity means that the variance of errors is the same cross all levels of the independent variables. The research is checked by visual examination of a plot of the standardized residuals by regression standardized predicted value. Ideally, residuals are randomly scattered around 0 (the horizontal line) providing a relatively even distribution. Heteroscedasticity is indicated when the residuals are not evenly scattered around the line. This research shows the scatterplot of residuals are randomly scattered around 0 (the horizontal line). Hence, heteroscedasticity may not be a serious problem for this research. The following shows the residual plots for linearity and constant variance of error terms testing.

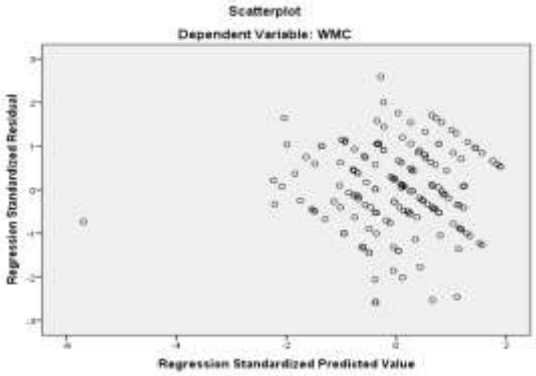
Equation 1: ***VPI*** $= \alpha_1 + \beta_1 POPC + \beta_2 FOSF + \beta_3 MMIC + \beta_4 DBSA + \beta_5 MTIO + \beta_6 FC + \beta_7 MC + \varepsilon_1$



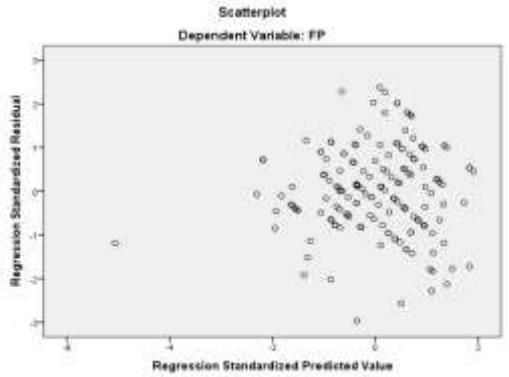
Equation 2: ***NPD*** $= \alpha_2 + \beta_8 POPC + \beta_9 FOSF + \beta_{10} MMIC + \beta_{11} DBSA + \beta_{12} MTIO + \beta_{13} FC + \beta_{14} MC + \varepsilon_2$



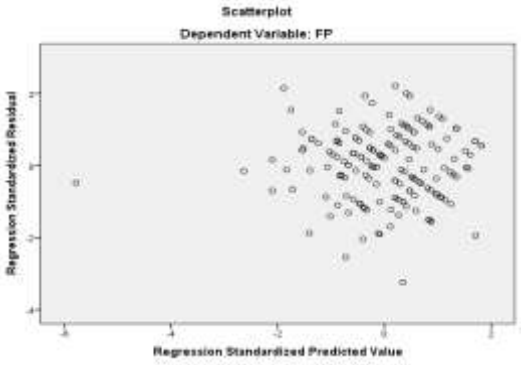
Equation 3: ***WMC*** $= \alpha_3 + \beta_{15} POPC + \beta_{16} FOSF + \beta_{17} MMIC + \beta_{18} DBSA + \beta_{19} MTIO + \beta_{20} FC + \beta_{21} MC + \varepsilon_3$



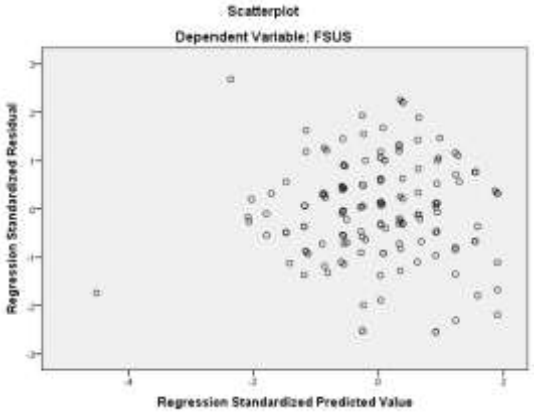
Equation 4: ***FP*** $= \alpha_4 + \beta_{22}VPI + \beta_{23}NPD + \beta_{24}WMC+ + \beta_{25}FC + \beta_{26}MC + \varepsilon_4$



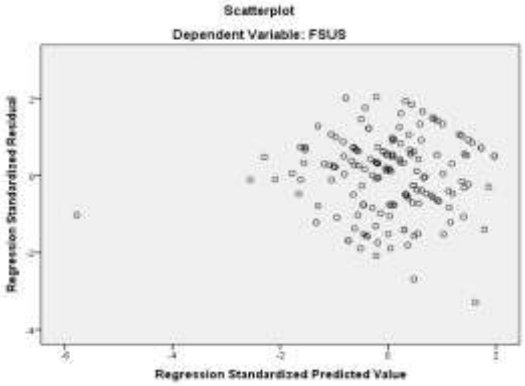
Equation 5: ***FP*** $= \alpha_5 + \beta_{27}POPC + \beta_{28}FOSF + \beta_{29}MMIC + \beta_{30}DBSA + \beta_{31}MTIO + \beta_{32}FC+ \beta_{33}MC + \varepsilon_5$



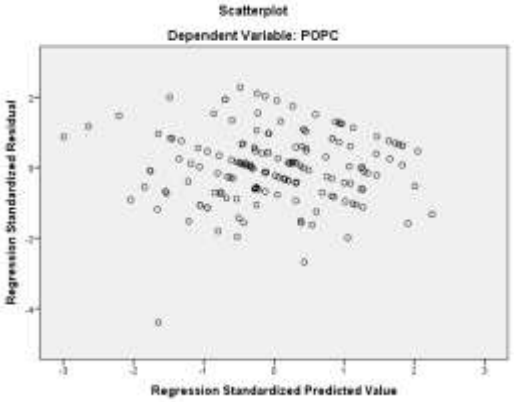
Equation 6: ***FSUS*** $= \alpha_6 + \beta_{34}FP + \beta_{35}FC + \beta_{36}MC + \varepsilon_6$



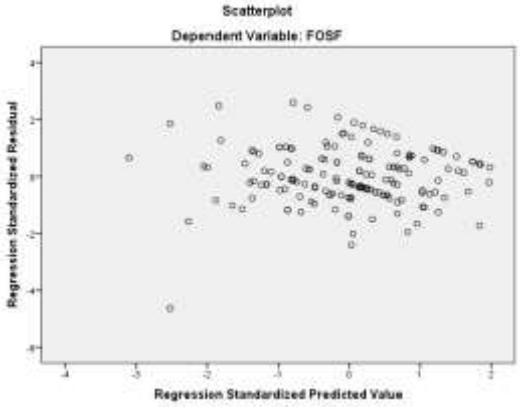
Equation 7: ***FSUS*** $= \alpha_6 + \beta_{37}POPC + \beta_{38}FOSF + \beta_{39}MMIC + \beta_{40}DBSA + \beta_{41}MTIO + \beta_{42}FC + \beta_{43}MC + \varepsilon_7$



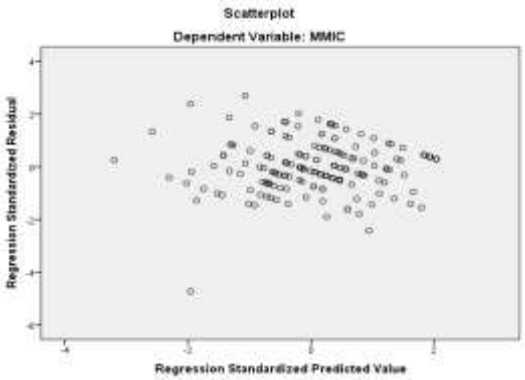
Equation 8: ***POPC*** $= \alpha_8 + \beta_{44}CAL + \beta_{45}DKM + \beta_{46}ORR + \beta_{47}BBE + \beta_{48}CPI + B_{49}FC + \beta_{50}MC + \varepsilon_8$



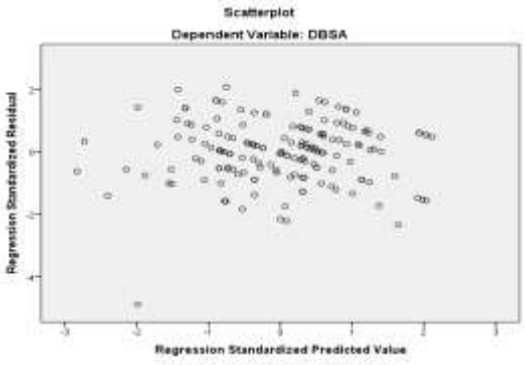
Equation 9: ***FOSF*** $= \alpha_9 + \beta_{51}CAL + \beta_{52}DKM + \beta_{53}ORR + \beta_{54}BBE + \beta_{55}CPI + B_{56}FC + \beta_{57}MC + \varepsilon_9$



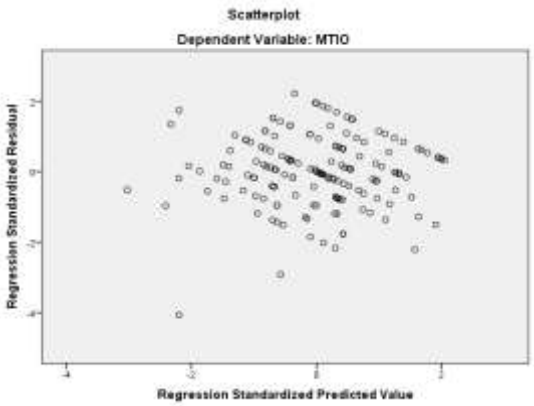
Equation 10: $MMIC = \alpha_{10} + \beta_{58}CAL + \beta_{59}DKM + \beta_{60}ORR + \beta_{61}BBE + \beta_{62}CPI + B_{63}FC + \beta_{64}MC + \varepsilon_{10}$



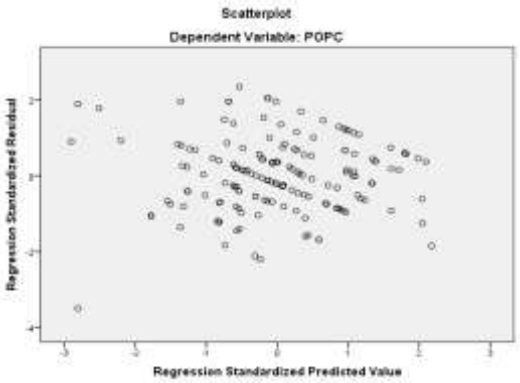
Equation 11: $DBSA = \alpha_{11} + \beta_{65}CAL + \beta_{66}DKM + \beta_{67}ORR + \beta_{68}BBE + \beta_{69}CPI + B_{70}FC + \beta_{71}MC + \varepsilon_{11}$



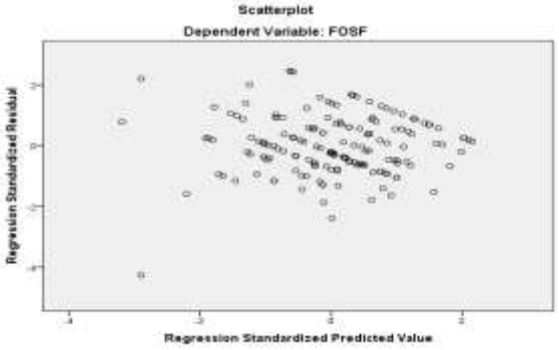
Equation 12: $MTIO = \alpha_{12} + \beta_{72}CAL + \beta_{73}DKM + \beta_{74}ORR + \beta_{75}BBE + \beta_{76}CPI + B_{77}FC + \beta_{78}MC + \varepsilon_{12}$



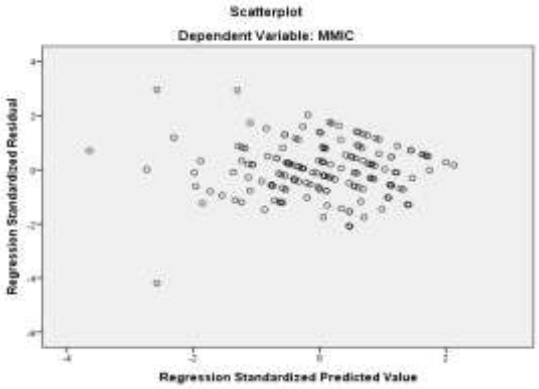
Equation 13: ***POPC*** $= \alpha_{13} + \beta_{79}CAL + \beta_{80}DKM + \beta_{81}ORR + \beta_{82}BBE + \beta_{83}CPI + \beta_{84}CC + B_{85}CC*CAL + \beta_{86}\ CC*DKM + \beta_{87}CC*ORR + \beta_{88}\ CC*BBE + B_{89}\ CC*CPI + \beta_{90}FC + \beta_{91}MC + \varepsilon_{13}$



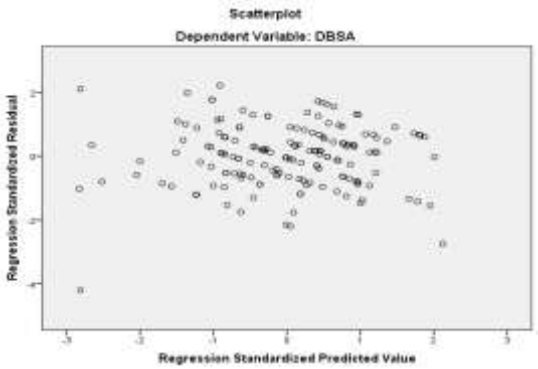
Equation 14: ***FOSF*** $= \alpha_{14} + \beta_{92}CAL + \beta_{93}DKM + \beta_{94}ORR + \beta_{95}BBE + \beta_{96}CPI + \beta_{97}CC + B_{98}CC*CAL + \beta_{99}\ CC*DKM + \beta_{100}\ CC*ORR + \beta_{101}\ CC*BBE + B_{102}\ CC*CPI + \beta_{103}FC + \beta_{104}MC + \varepsilon_{14}$



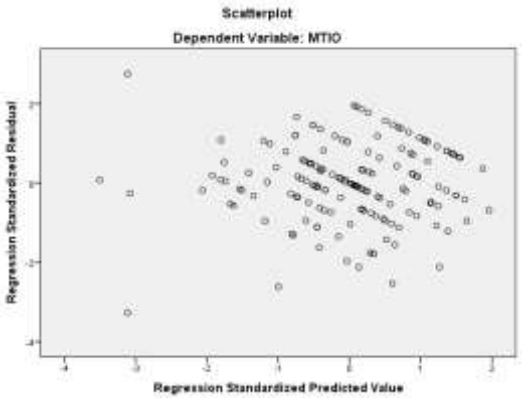
Equation 15: ***MMIC*** $= \alpha_{15} + \beta_{105}CAL + \beta_{106}DKM + \beta_{107}ORR + \beta_{108}BBE + \beta_{109}CPI + \beta_{110}CC + B_{111}CC*CAL + \beta_{112}CC*DKM + \beta_{113}\ CC*ORR + \beta_{114}\ CC*BBE + B_{115}\ CC*CPI + \beta_{116}FC + \beta_{117}MC + \varepsilon_{15}$



Equation 16: $DBSA = \alpha_{16} + \beta_{118}CAL + \beta_{119}DKM + \beta_{120}ORR + \beta_{121}BBE + \beta_{122}CPI + \beta_{123}CC + B_{124} CC*CAL + \beta_{125} CC*DKM + \beta_{126} CC*ORR + \beta_{127} CC*BBE + B_{128}CC*CPI + \beta_{129}FC + \beta_{130}MC + \varepsilon_{16}$



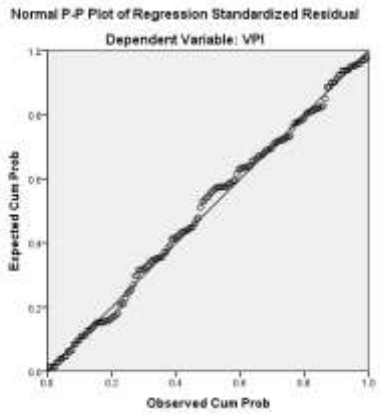
Equation 17: $MTIO = \alpha_{17} + \beta_{131}CAL + \beta_{132}DKM + \beta_{133}ORR + \beta_{134}BBE + \beta_{135}CPI + \beta_{136}CC + B_{137} CC*CAL + \beta_{138} CC*DKM + \beta_{139}CC*ORR + \beta_{140} CC*BBE + B_{141} CC*CPI + \beta_{142}FC + \beta_{143}MC + \varepsilon_{17}$

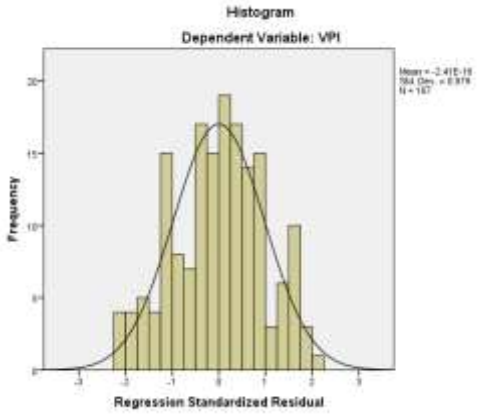


3. Normality of the error term distribution

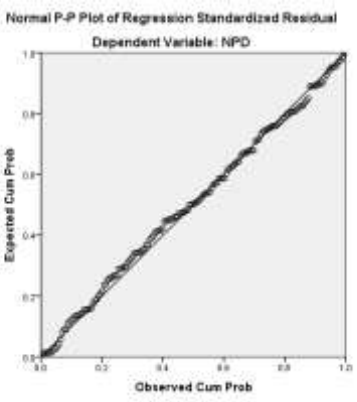
The normal probability plot of the residuals and the histogram of residuals are used to check the normality of error term distribution. “The normal distribution makes a straight diagonal line, and the plotter residuals are compared with the diagonal., If a distribution in normal, the residual line closely follows the diagonal” (Hair et al., 2010). As shown in the following, the values fall along the diagonal with no systematic departures. Therefore, the assumption of normality is met. As a result, the non-normality problems should not be concerned.

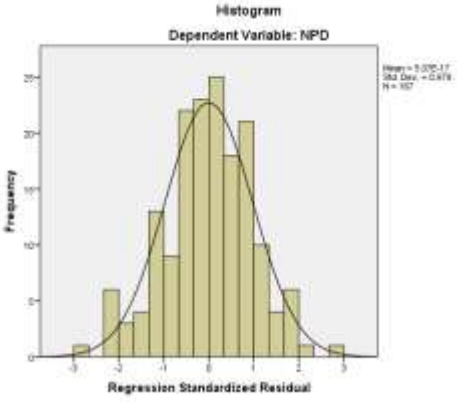
Equation 1: $\mathbf{VPI} = \alpha_1 + \beta_1 POPC + \beta_2 FOSF + \beta_3 MMIC + \beta_4 DBSA + \beta_5 MTIO + \beta_6 FC + \beta_7 MC + \varepsilon_1$



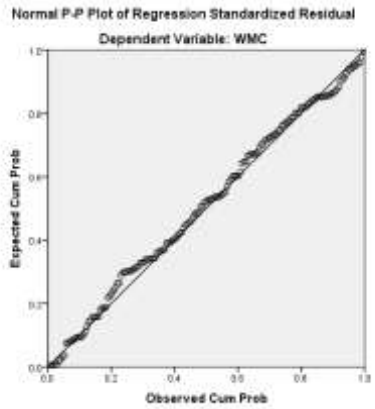


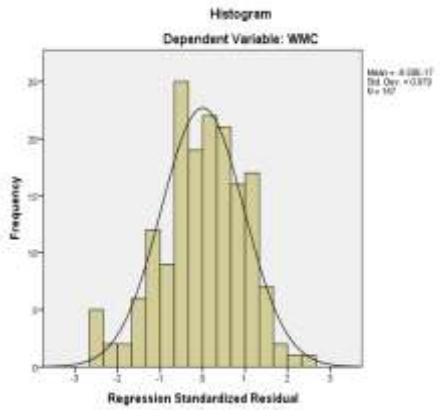
Equation 2: $\mathbf{NPD} = \alpha_2 + \beta_8 POPC + \beta_9 FOSF + \beta_{10} MMIC + \beta_{11} DBSA + \beta_{12} MTIO + \beta_{13} FC + \beta_{14} MC + \varepsilon_2$



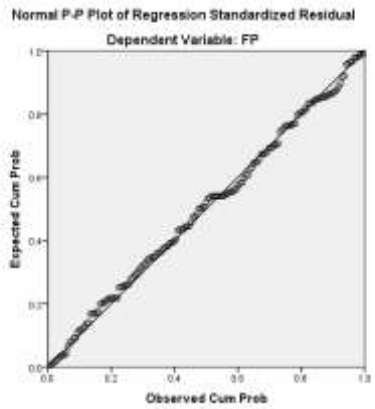


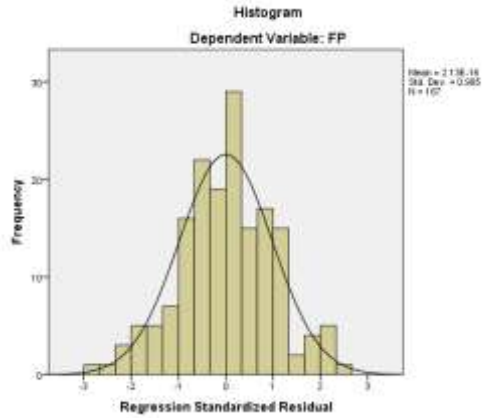
Equation 3: $\mathbf{WMC} = \alpha_3 + \beta_{15}POPC + \beta_{16}FOSF + \beta_{17}MMIC + \beta_{18}DBSA + \beta_{19}MTIO + \beta_{20}FC + \beta_{21}MC + \varepsilon_3$



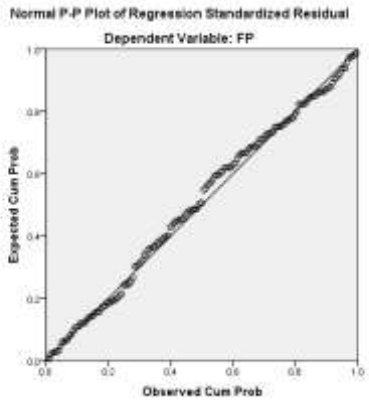


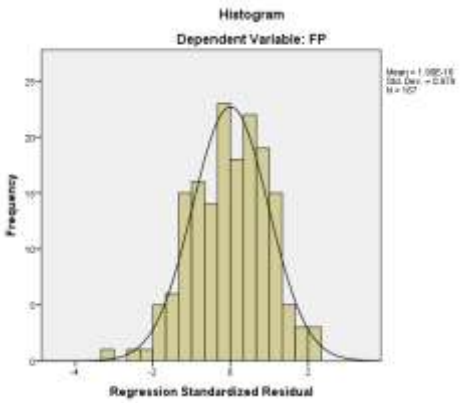
Equation 4: $\mathbf{FP} = \alpha_4 + \beta_{22}VPI + \beta_{23}NPD + \beta_{24}WMC + + \beta_{25}FC + \beta_{26}MC + \varepsilon_4$



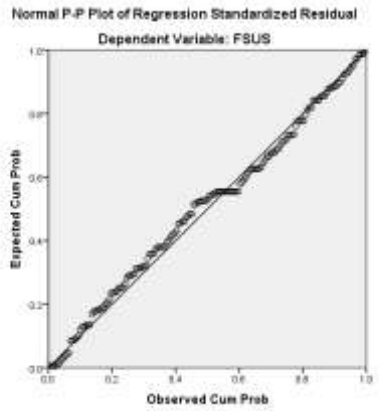


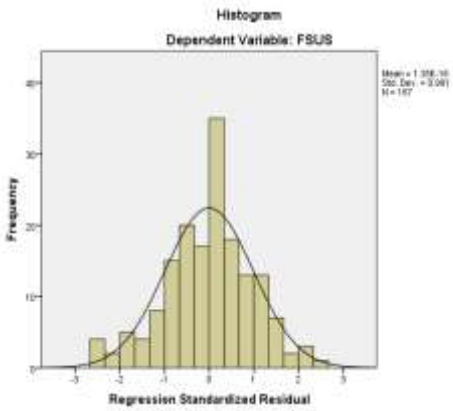
Equation 5: $\boldsymbol{FP} = \alpha_5 + \beta_{27}POPC + \beta_{28}FOSF + \beta_{29}MMIC + \beta_{30}DBSA + \beta_{31}MTIO + \beta_{32}FC + \beta_{33}MC + \varepsilon_5$



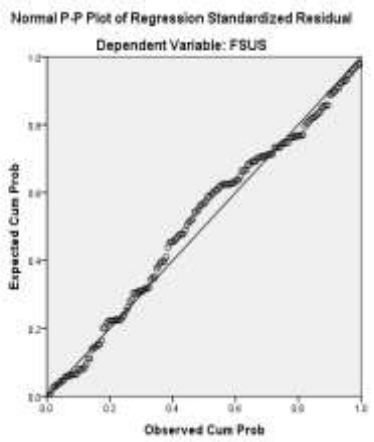


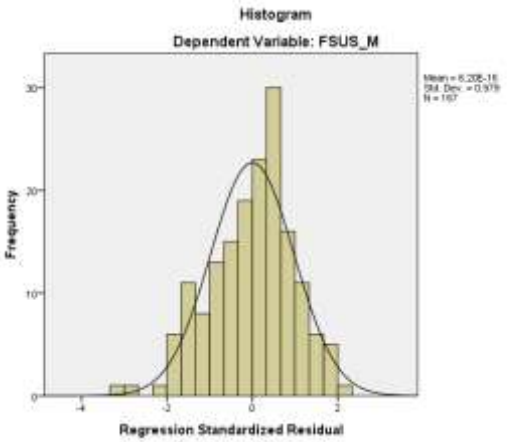
Equation 6: $\boldsymbol{FSUS} = \alpha_6 + \beta_{34}FP + \beta_{35}FC + \beta_{36}MC + \varepsilon_6$



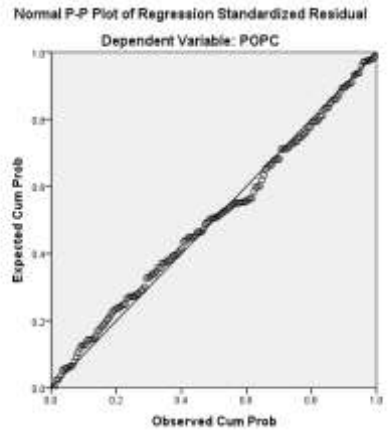


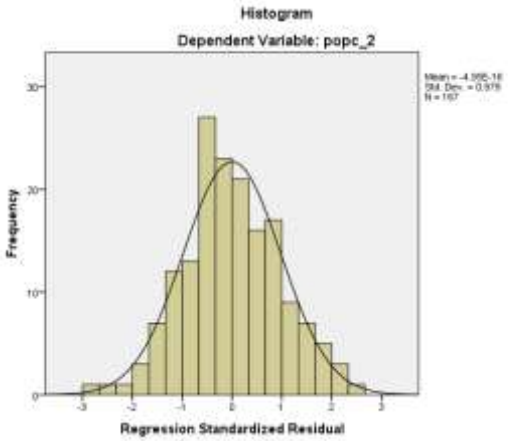
Equation 7: $\mathbf{FSUS} = \alpha_6 + \beta_{37}POPC + \beta_{38}FOSF + \beta_{39}MMIC + \beta_{40}DBSA + \beta_{41}MTIO + \beta_{42}FC + \beta_{43}MC + \varepsilon_7$



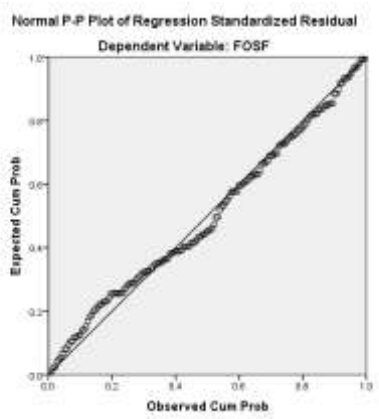


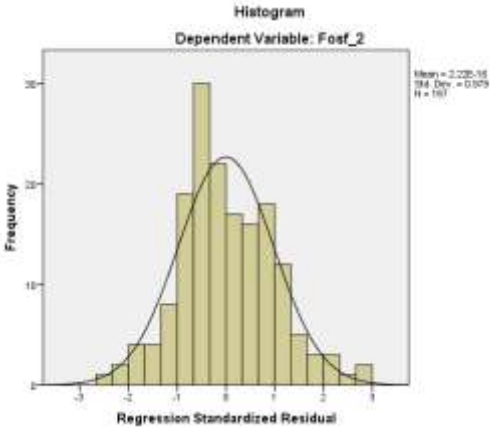
Equation 8: $\mathbf{POPC} = \alpha_8 + \beta_{44}CAL + \beta_{45}DKM + \beta_{46}ORR + \beta_{47}BBE + \beta_{48}CPI + B_{49}FC + \beta_{50}MC + \varepsilon_8$



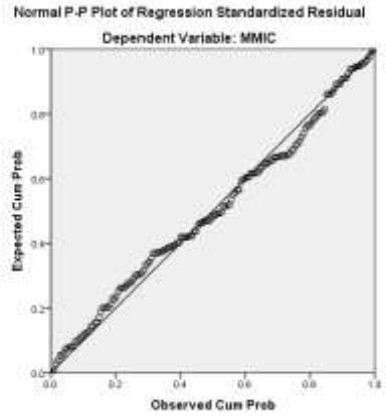


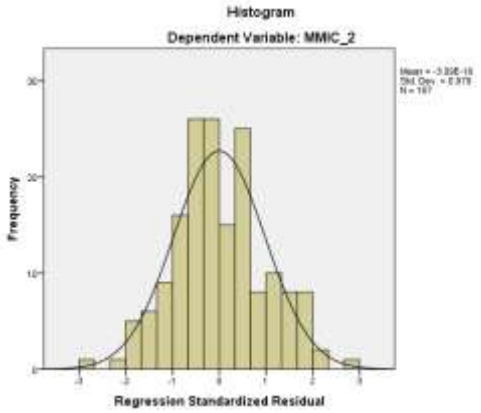
Equation 9: $\boldsymbol{FOSF} = \alpha_9 + \beta_{51}CAL + \beta_{52}DKM + \beta_{53}ORR + \beta_{54}BBE + \beta_{55}CPI + B_{56}FC + \beta_{57}MC + \varepsilon_9$



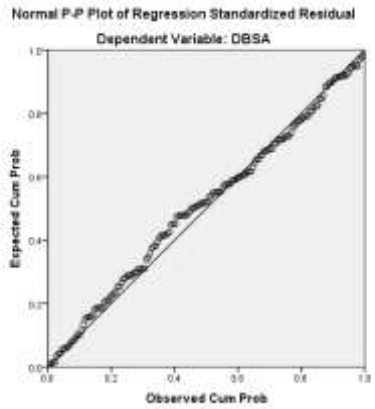


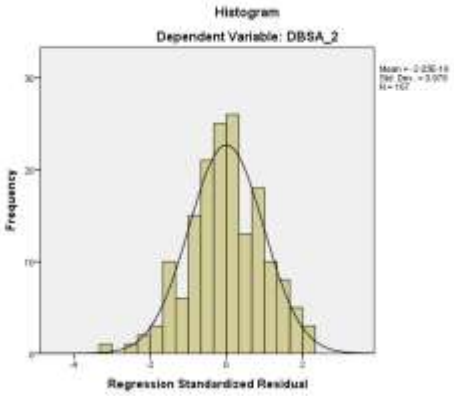
Equation 10: $\boldsymbol{MMIC} = \alpha_{10} + \beta_{58}CAL + \beta_{59}DKM + \beta_{60}ORR + \beta_{61}BBE + \beta_{62}CPI + B_{63}FC + \beta_{64}MC + \varepsilon_{10}$



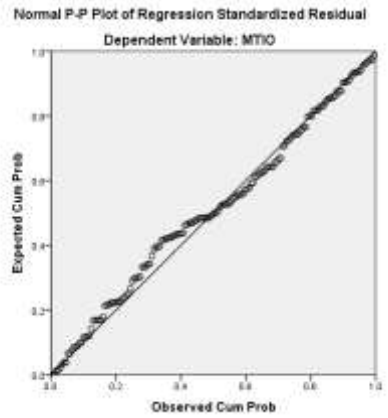


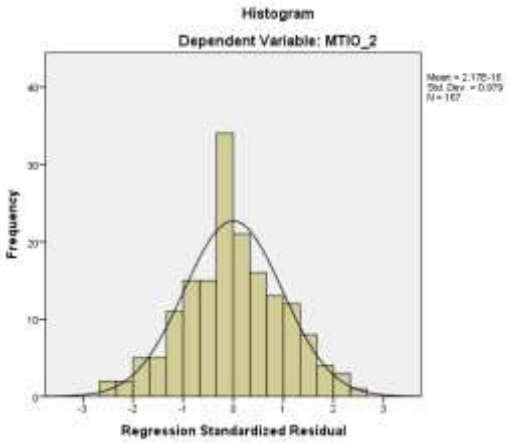
Equation 11: $\mathbf{DBSA} = \alpha_{11} + \beta_{65}CAL + \beta_{66}DKM + \beta_{67}ORR + \beta_{68}BBE + \beta_{69}CPI + B_{70}FC + \beta_{71}MC + \varepsilon_{11}$



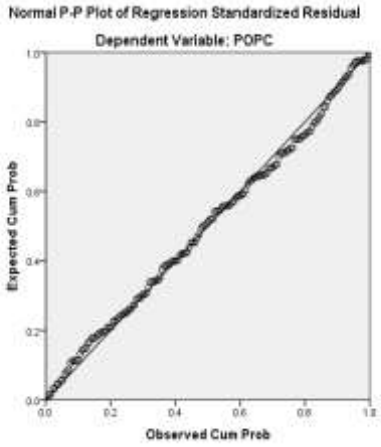


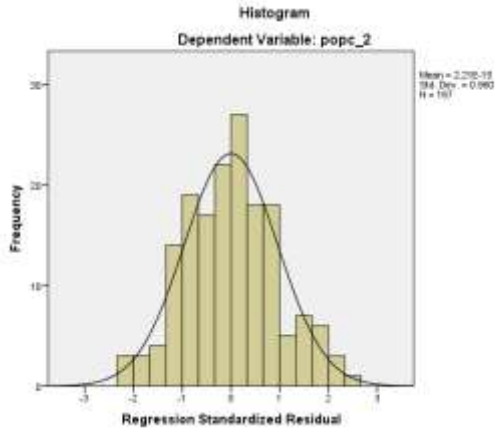
Equation 12: $\mathbf{MTIO} = \alpha_{12} + \beta_{72}CAL + \beta_{73}DKM + \beta_{74}ORR + \beta_{75}BBE + \beta_{76}CPI + B_{77}FC + \beta_{78}MC + \varepsilon_{12}$



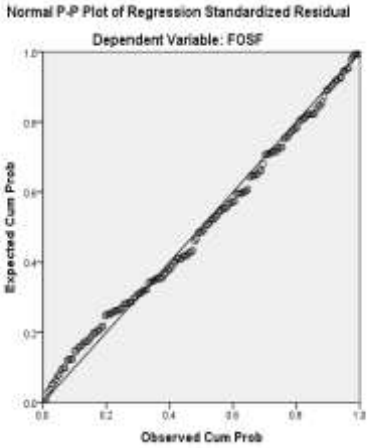


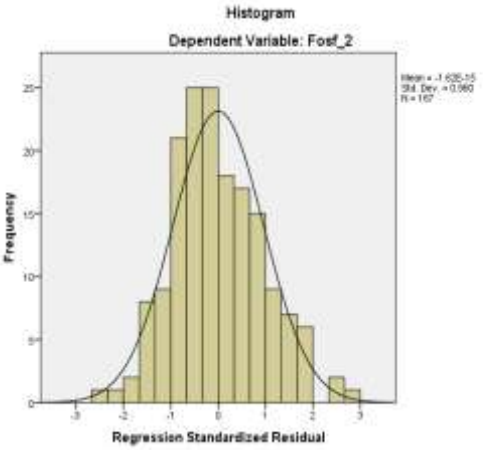
Equation 13: $\boldsymbol{POPC} = \alpha_{13} + \beta_{79}CAL + \beta_{80}DKM + \beta_{81}ORR + \beta_{82}BBE + \beta_{83}CPI + \beta_{84}CC + B_{85}CC*CAL + \beta_{86}\,CC*DKM + \beta_{87}CC*ORR + \beta_{88}CC*BBE + B_{89}\,CC*CPI + \beta_{90}FC + \beta_{91}MC + \varepsilon_{13}$



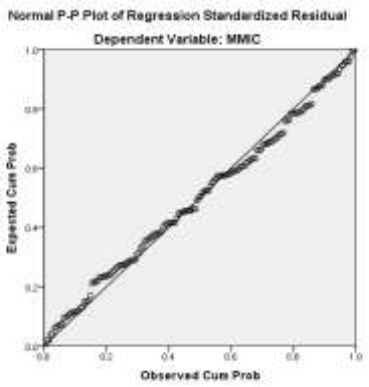


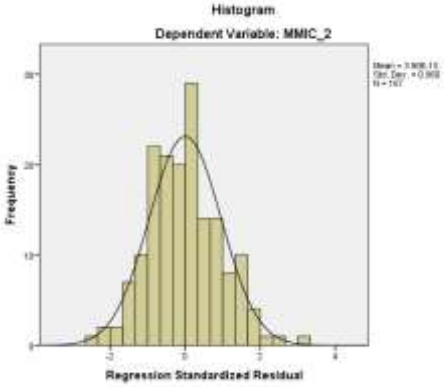
Equation 14: $\boldsymbol{FOSF} = \alpha_{14} + \beta_{92}CAL + \beta_{93}DKM + \beta_{94}ORR + \beta_{95}BBE + \beta_{96}CPI + \beta_{97}CC + B_{98}CC*CAL + \beta_{99}\,CC*DKM + \beta_{100}\,CC*ORR + \beta_{101}\,CC*BBE + B_{102}\,CC*CPI + \beta_{103}FC + \beta_{104}MC + \varepsilon_{14}$



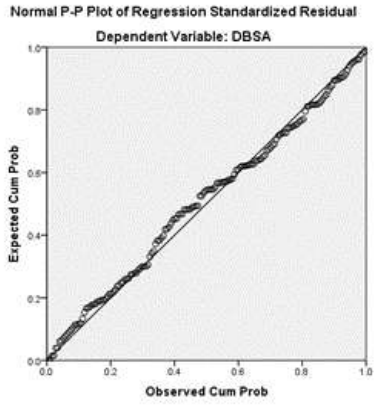


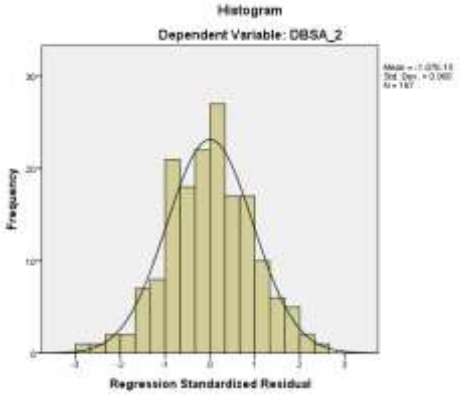
Equation 15: $\boldsymbol{MMIC} = \alpha_{15} + \beta_{105}CAL + \beta_{106}DKM + \beta_{107}ORR + \beta_{108}BBE + \beta_{109}CPI + \beta_{110}CC + B_{111}CC*CAL + \beta_{112}CC*DKM + \beta_{113}\,CC*ORR + \beta_{114}CC*BBE + B_{115}\,CC*CPI + \beta_{116}FC + \beta_{117}MC + \varepsilon_{15}$



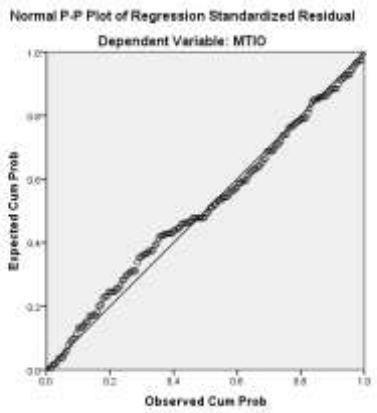


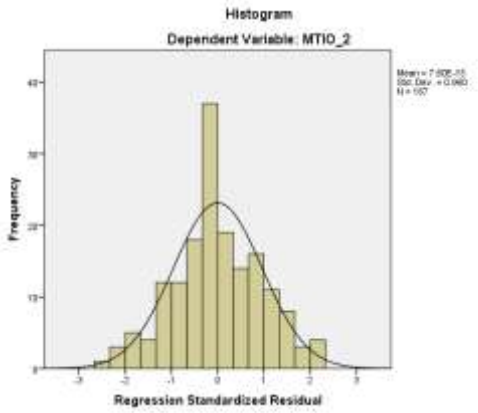
Equation 16: $\boldsymbol{DBSA} = \alpha_{16} + \beta_{118}CAL + \beta_{119}DKM + \beta_{120}ORR + \beta_{121}BBE + \beta_{122}CPI + \beta_{123}CC + B_{124}\,CC*CAL + \beta_{125}\,CC*DKM + \beta_{126}\,CC*ORR + \beta_{127}CC*BBE + B_{128}CC*CPI + \beta_{129}FC + \beta_{130}MC + \varepsilon_{16}$





Equation 17: $MTIO = \alpha_{17} + \beta_{131}CAL + \beta_{132}DKM + \beta_{133}ORR + \beta_{134}BBE + \beta_{135}CPI + \beta_{136}CC + B_{137}\,CC*CAL + \beta_{138}\,CC*DKM + \beta_{139}CC*ORR + \beta_{140}\,CC*BBE + B_{141}\,CC*CPI + \beta_{142}FC + \beta_{143}MC + \varepsilon_{17}$





4. Test independence of the error terms (Test of Autocorrelation)

Test independence of the error terms is used Durbin-Watson to test, which data problem is often time series data or cross-sectional data. The rule of thumb of Durbin-Watson d statistic has a value between 1.6 to 2.2 is no autocorrelation. Hence, it could be assumed that the error terms are independence.

Table 1F: The results of the independence of error terms assumption testing

Equations			*Durbin-Watson (d Statistics)*
Equation 1:	VPI	$= \alpha_1 + \beta_1 POPC + \beta_2 FOSF + \beta_3 MMIC + \beta_4 DBSA + \beta_5 MTIO + \beta_6 FC + \beta_7 MC + \varepsilon_1$	1.642
Equation 2:	NPD	$= \alpha_2 + \beta_8 POPC + \beta_9 FOSF + \beta_{10} MMIC + \beta_{11} DBSA + \beta_{12} MTIO + \beta_{13} FC + \beta_{1B4} MC + \varepsilon_2$	2.082
Equation 3:	WMC	$= \alpha_3 + \beta_{15} POPC + \beta_{16} FOSF + \beta_{17} MMIC + \beta_{18} DBSA + \beta_{19} MTIO + \beta_{20} FC + \beta_{21} MC + \varepsilon_3$	2.223
Equation 4:	FP	$= \alpha_4 + \beta_{22} VPI + \beta_{23} NPD + \beta_{24} WMC + + \beta_{25} FC + \beta_{26} MC + \varepsilon_4$	1.714
Equation 5:	FP	$= \alpha_5 + \beta_{27} POPC + \beta_{28} FOSF + \beta_{29} MMIC + \beta_{30} DBSA + \beta_{31} MTIO + \beta_{32} FC + \beta_{33} MC + \varepsilon_5$	2.114
Equation 6:	FSUS	$= \alpha_6 + \beta_{34} FP + \beta_{35} FC + \beta_{36} MC + \varepsilon_6$	1.784
Equation 7:	FSUS	$= \alpha_6 + \beta_{37} POPC + \beta_{38} FOSF + \beta_{39} MMIC + \beta_{40} DBSA + \beta_{41} MTIO + \beta_{42} FC + \beta_{43} MC + \varepsilon_7$	1.886
Equation 8:	POPC	$= \alpha_8 + \beta_{44} CAL + \beta_{45} DKM + \beta_{46} ORR + \beta_{47} BBE + \beta_{48} CPI + B_{49} FC + \beta_{50} MC + \varepsilon_8$	2.075
Equation 9:	FOSF	$= \alpha_9 + \beta_{51} CAL + \beta_{52} DKM + \beta_{53} ORR + \beta_{54} BBE + \beta_{55} CPI + B_{56} FC + \beta_{57} MC + \varepsilon_9$	2.011
Equation 10:	MMIC	$= \alpha_{10} + \beta_{58} CAL + \beta_{59} DKM + \beta_{60} ORR + \beta_{61} BBE + \beta_{62} CPI + B_{63} FC + \beta_{64} MC + \varepsilon_{10}$	2.103
Equation 11:	DBSA	$= \alpha_{11} + \beta_{65} CAL + \beta_{66} DKM + \beta_{67} ORR + \beta_{68} BBE + \beta_{69} CPI + B_{70} FC + \beta_{71} MC + \varepsilon_{11}$	2.096
Equation 12:	MTIO	$= \alpha_{12} + \beta_{72} CAL + \beta_{73} DKM + \beta_{74} ORR + \beta_{75} BBE + \beta_{76} CPI + B_{77} FC + \beta_{78} MC + \varepsilon_{12}$	1.955
Equation 13:	POPC	$= \alpha_{13} + \beta_{79} CAL + \beta_{80} DKM + \beta_{81} ORR + \beta_{82} BBE + \beta_{83} CPI + \beta_{84} CC + B_{85} CC*CAL + \beta_{86}\, CC*DKM + \beta_{87} CC*ORR + \beta_{88}\, CC*BBE + B_{89}\, CC*CPI + \beta_{90} FC + \beta_{91} MC + \varepsilon_{13}$	2.079
Equation 14:	FOSF	$= \alpha_{14} + \beta_{92} CAL + \beta_{93} DKM + \beta_{94} ORR + \beta_{95} BBE + \beta_{96} CPI + \beta_{97} CC + B_{98} CC*CAL + \beta_{99}\, CC*DKM + \beta_{100}\, CC*ORR + \beta_{101}\, CC*BBE + B_{102}\, CC*CPI + \beta_{103} FC + \beta_{104} MC + \varepsilon_{14}$	2.105

Table 1F: The results of the independence of error terms assumption testing (continued)

Equations			*Durbin-Watson (d Statistics)*
Equation 15:	MMIC	$= \alpha_{15} + \beta_{105}CAL + \beta_{106}DKM + \beta_{107}ORR + \beta_{108}BBE + \beta_{109}CPI + \beta_{110}CC + B_{111}CC*CAL + \beta_{112}CC*DKM + \beta_{113}CC*ORR + \beta_{114}CC*BBE + B_{115}CC*CPI + \beta_{116}FC + \beta_{117}MC + \varepsilon_{15}$	2.042
Equation 16:	DBSA	$= \alpha_{16} + \beta_{118}CAL + \beta_{119}DKM + \beta_{120}ORR + \beta_{121}BBE + \beta_{122}CPI + \beta_{123}CC + B_{124}CC*CAL + \beta_{125}CC*DKM + \beta_{126}CC*ORR + \beta_{127}CC*BBE + B_{128}CC*CPI + \beta_{129}FC + \beta_{130}MC + \varepsilon_{16}$	2.046
Equation 17:	MTIO	$= \alpha_{17} + \beta_{131}CAL + \beta_{132}DKM + \beta_{133}ORR + \beta_{134}BBE + \beta_{135}CPI + \beta_{136}CC + B_{137}CC*CAL + \beta_{138}CC*DKM + \beta_{139}CC*ORR + \beta_{140}CC*BBE + B_{141}CC*CPI + \beta_{142}FC + \beta_{143}MC + \varepsilon_{17}$	1.939

5. Test of Multicollinearity

The VIF should be less than 10, then multicollinearity is not a concerned (Hair et al, 2010). Table 2F illustrate the VIF values in each independent variables of construct as show below

Table 2F: The results of mulicollinearity testing

Construct	VIF
Proactive Operational Planning Competency (POPC)	1.489
Flexible Organization Structure Focus (FOSF)	1.622
Modern Management Innovation Capability (MMIC)	3.014
Dynamic Business Strategy Application (DBSA)	1.734
Managerial Technological Implementation Orientation (MTIO)	2.642
Valuable Practice Improvement (VPI)	1.962
New Process Development (NPD)	2.760
Working Method Creation (WMC)	2.472
Firm Performance (FP)	1.017
Continuous Adaptation Leadership (CAL)	2.537
Dynamic Knowledge Management (DKM)	2.452
Organizational Resource Readiness (ORR)	2.408
Best Business Experience (BBE)	2.411
Competitive Pressure Intensity (CPI)	1.706
Change Climate (CC)	2.428
Continuous Adaptation Leadership (CAL) (Moderator testing)	2.811
Dynamic Knowledge Management (DKM) (Moderator testing)	2.748
Organizational Resource Readiness (ORR) (Moderator testing)	3.000
Best Business Experience (BBE) (Moderator testing)	3.180
Competitive Pressure Intensity (CPI) (Moderator testing)	2.160
CAL x CC	2.891
DKM x CC	3.619
ORR x CC	3.247
BBE x CC	3.934
CPI x CC	2.341

APPENDIX G

Cover Letter and Questionnaire (Thai Version)

แบบสอบถามเพื่อการวิจัย

เรื่อง: ศักยภาพการจัดการการปรับเปลี่ยนเชิงกลยุทธ์และความยั่งยืนขององค์กร: การศึกษาเชิงประจักษ์ของธุรกิจอิเล็กทรอนิกส์และเครื่องใช้ไฟฟ้าในประเทศไทย

<u>คำชี้แจง</u>

การวิจัยนี้มีวัตถุประสงค์เพื่อศึกษาผลกระทบของศักยภาพการจัดการการปรับเปลี่ยนเชิงกลยุทธ์และความยั่งยืนขององค์กร: : การศึกษาเชิงประจักษ์ของธุรกิจอิเล็กทรอนิกส์และเครื่องใช้ไฟฟ้าในประเทศไทย ข้าพเจ้าใคร่ขอความอนุเคราะห์จากท่านผู้ตอบแบบสอบถาม ได้โปรดตอบแบบสอบถามชุดนี้ โดยรายละเอียดของแบบสอบถามประกอบด้วยคำถาม 7 ตอน ดังนี้

ตอนที่ 1 ข้อมูลทั่วไปของผู้บริหารธุรกิจอิเล็กทรอนิกส์และเครื่องใช้ไฟฟ้าในประเทศไทย

ตอนที่ 2 ข้อมูลทั่วไปเกี่ยวกับธุรกิจอิเล็กทรอนิกส์และเครื่องใช้ไฟฟ้าในประเทศไทย

ตอนที่ 3 ความคิดเห็นเกี่ยวกับศักยภาพการจัดการการปรับเปลี่ยนเชิงกลยุทธ์ของธุรกิจอิเล็กทรอนิกส์และเครื่องใช้ไฟฟ้าในประเทศไทย

ตอนที่ 4 ความคิดเห็นเกี่ยวกับผลการดำเนินงานของธุรกิจอิเล็กทรอนิกส์และเครื่องใช้ไฟฟ้าในประเทศไทย

ตอนที่ 5 ความคิดเห็นเกี่ยวกับปัจจัยภายในที่ส่งผลต่อศักยภาพการจัดการการปรับเปลี่ยนเชิงกลยุทธ์ของธุรกิจอิเล็กทรอนิกส์และเครื่องใช้ไฟฟ้าในประเทศไทย

ตอนที่ 6 ความคิดเห็นเกี่ยวกับปัจจัยภายนอกที่ส่งผลต่อศักยภาพการจัดการการปรับเปลี่ยนเชิงกลยุทธ์ของธุรกิจอิเล็กทรอนิกส์และเครื่องใช้ไฟฟ้าในประเทศไทย

ตอนที่ 7 ข้อคิดเห็นและข้อเสนอแนะเกี่ยวการบริหารจัดการธุรกิจอิเล็กทรอนิกส์และเครื่องใช้ไฟฟ้าในปัจจุบัน

ข้าพเจ้าขอขอบพระคุณที่ท่านได้สละเวลาตอบคำถามทุกข้ออย่างถูกต้องครบถ้วน หากท่านมีความประสงค์จะขอรับรายงานสรุปเกี่ยวกับการวิจัยนี้ โปรดแจ้งความประสงค์ตามที่ระบุไว้ด้านล่างเพื่อจะได้จัดส่งข้อมูลดังกล่าวให้แก่ท่าน และหากท่านมีข้อสงสัยประการใดเกี่ยวกับแบบสอบถามเพื่อการวิจัยชุดนี้ โปรดติดต่อข้าพเจ้านางสาวสิริวงษ์ เอียสกุล นิสิตปริญญาเอก สาขาวิชาการจัดการ คณะการบัญชีและการจัดการ มหาวิทยาลัยมหาสารคาม จังหวัดมหาสารคาม 44000 โทรศัพท์เคลื่อนที่ 095-6138666 หรือ E-mail: nam_1515@hotmail.com

ผู้วิจัยจะไม่มีการเปิดเผยข้อมูลเกี่ยวกับกิจการของท่าน รวมทั้งจะไม่มีการร่วมใช้ข้อมูลกับบุคคลภายนอกอื่นใด โดยไม่ได้รับอนุญาตจากท่าน

ขอขอบพระคุณที่ให้ข้อมูลไว้ ณ โอกาสนี้

(นางสาวสิริวงษ์ เอียสกุล)

นิสิตปริญญาเอก สาขาการจัดการ

คณะการบัญชีและการจัดการ มหาวิทยาลัยมหาสารคาม

ตอนที่ 1 ข้อมูลทั่วไปของผู้บริหารธุรกิจอิเล็กทรอนิกส์และเครื่องใช้ไฟฟ้าในประเทศไทย

1. เพศ

❑ ชาย ❑ หญิง

2. อายุ

❑ น้อยกว่า 30 ปี ❑ 30 - 40 ปี

❑ 41 - 50 ปี ❑ มากกว่า 50 ปี

3. สถานภาพสมรส

❑ โสด ❑ สมรส

❑ หย่า / หม้าย

4. ระดับการศึกษา

❑ ปริญญาตรีหรือต่ำกว่า ❑ สูงกว่าปริญญาตรี

5. ประสบการณ์ในการทำงาน

❑ น้อยกว่า 10 ปี ❑ 10 – 20 ปี

❑ 21 – 30 ปี ❑ มากกว่า 30 ปี

6. รายได้เฉลี่ยต่อเดือน

❑ ต่ำกว่า 125,000 บาท ❑ 125,000 – 150,000 บาท

❑ 150,001 – 175,000 บาท ❑ มากกว่า 175,000 บาท

7. ตำแหน่งงานในปัจจุบัน

❑ กรรมการผู้จัดการ ❑ หุ้นส่วนผู้จัดการ

❑ อื่นๆ (โปรดระบุ).....

ตอนที่ 2 ข้อมูลทั่วไปเกี่ยวกับธุรกิจอิเล็กทรอนิกส์และเครื่องใช้ไฟฟ้าในประเทศไทย

1. รูปแบบธุรกิจ

❑ บริษัทจำกัด ❑ ห้างหุ้นส่วน

2. ประเภทธุรกิจ

❑ เครื่องใช้ไฟฟ้าภายในบ้าน ❑ หลอดไฟฟ้าและอุปกรณ์แสงสว่าง

❑ สายไฟฟ้าและสายเคเบิล ❑ แผงวงจรไฟฟ้าและอิเล็กทรอนิกส์

❑ เครื่องกระจายเสียงหรือลำโพง ❑ ฉนวนกันความร้อน

❑ อื่นๆ (โปรดระบุ).....

3. ที่ตั้งธุรกิจ

❑ ภาคเหนือ ❑ ภาคใต้

❑ ภาคตะวันออก ❑ ภาคตะวันตก

❑ ภาคตะวันออกเฉียงเหนือ ❑ ภาคกลาง

❑ กรุงเทพมหานคร

4. จำนวนพนักงานในปัจจุบัน

❑ น้อยกว่า 50 คน ❑ 50 –100 คน

❑ 101 – 200 คน ❑ มากกว่า 200 คน

5. ทุนในการดำเนินงาน

❑ ต่ำกว่า 25,000,000 บาท ❑ 25,000,000 – 50,000,000 บาท

❑ 50,000,001 – 75,000,000 บาท ❑ มากกว่า 75,000,000 บาท

6. ระยะเวลาในการดำเนินงาน

❑ น้อยกว่า 10 ปี ❑ 10 – 15 ปี

❑ 16 – 20 ปี ❑ มากกว่า 20 ปี

7. รายได้เฉลี่ยของกิจการต่อปี

❑ ต่ำกว่า 50,000,000 บาท ❑ 50,000,000 – 100,000,000 บาท

❑ 100,000,001 – 150,000,000 บาท ❑ มากกว่า 150,000,000 บาท

8. ลูกค้าหลักของกิจการ

❑ ภายในประเทศ ❑ ต่างประเทศ

ตอนที่ 3 ความคิดเห็นเกี่ยวกับศักยภาพการจัดการการปรับเปลี่ยนเชิงกลยุทธ์ของธุรกิจอิเล็กทรอนิกส์และเครื่องใช้ไฟฟ้าในประเทศไทย

ศักยภาพการจัดการการปรับเปลี่ยนเชิงกลยุทธ์ (Strategic Transformational Management Capability)	ระดับความคิดเห็น				
	มากที่สุด 5	มาก 4	ปานกลาง 3	น้อย 2	น้อยที่สุด 1
สมรรถนะการวางแผนการดำเนินงานเชิงรุก (Proactive Operational Planning Competency) 1. กิจการเชื่อมั่นว่าการวางแผนการดำเนินงานที่มุ่งเน้นไปในอนาคต จะช่วยทำให้การดำเนินงานมีเป้าหมายที่ชัดเจนและสอดคล้องกับสถานการณ์ที่เกิดขึ้นได้เป็นอย่างดี					
2. กิจการมุ่งเน้นให้มีการวิเคราะห์สถานการณ์ในการแข่งขันทั้งในปัจจุบันและอนาคตอย่างเป็นระบบรูปธรรม ซึ่งจะช่วยให้กำหนดแนวทางและเป้าหมายในการดำเนินงานได้อย่างชัดเจนและมีประสิทธิภาพมากยิ่งขึ้น					
3. กิจการให้ความสำคัญกับการวิจัยแนวโน้มการดำเนินงานและการปฏิบัติงานต่างๆที่จะเกิดขึ้นในอนาคต ซึ่งจะช่วยให้มีข้อมูลในการกำหนด ทิศทางและวิสัยทัศน์ในการดำเนินงานให้เป็นระบบและเป็นรูปธรรมมากยิ่งขึ้น					
4. กิจการมุ่งมั่นให้มีการกำหนดนโยบายในการดำเนินงานให้สอดคล้องกับสถานการณ์ที่เกิดขึ้น จะช่วยให้การดำเนินงานบรรลุเป้าหมายได้ดียิ่งขึ้น					
การมุ่งเน้นโครงสร้างองค์กรแบบยืดหยุ่น (Flexible Organization Structure Focus) 5. กิจการเชื่อมั่นว่าการมีโครงสร้างการดำเนินงานที่มีความยืดหยุ่นและสอดคล้องกับสถานการณ์ จะช่วยทำให้การบริหารประสบความสำเร็จมากยิ่งขึ้น					
6. กิจการสนับสนุนให้มีการบูรณาการการทำงานร่วมกันอย่างเป็นระบบและเป็นรูปธรรม ซึ่งจะช่วยให้เกิดการปรับปรุงกระบวนการและแนวทางในการดำเนินการให้ดียิ่งขึ้น					

ตอนที่ 3 (ต่อ)

ศักยภาพการจัดการการปรับเปลี่ยนเชิงกลยุทธ์ (Strategic Transformational Management Capability)	ระดับความคิดเห็น				
	มากที่สุด 5	มาก 4	ปานกลาง 3	น้อย 2	น้อยที่สุด 1
7. กิจการส่งเสริมให้มีการผสมผสานและบูรณาการวิธีการปฏิบัติงานร่วมกันอย่างต่อเนื่อง ซึ่งจะช่วยทำให้การดำเนินงานประสบความสำเร็จมากยิ่งขึ้น					
8. กิจการให้ความสำคัญกับการนำประสบการณ์และความชำนาญของบุคลากรมาใช้เป็นแนวทางในการบริหารจัดการองค์กรอย่างเป็นรูปธรรม ซึ่งจะช่วยให้การดำเนินงานบรรลุเป้าหมายได้ดียิ่งขึ้น					
ศักยภาพนวัตกรรมการจัดการสมัยใหม่ (Modern Management Innovation Capability) 9. กิจการเชื่อมั่นว่าการมีนวัตกรรมทางด้านบริหารจัดการสมัยใหม่ จะช่วยให้เกิดการพัฒนากระบวนในการทำงานใหม่ๆ ได้เป็นอย่างดี					
10. กิจการสนับสนุนให้บุคลากรมีการคิดค้นและปรับปรุงเทคนิคและวิธีการปฏิบัติงานสมัยใหม่อย่างต่อเนื่อง ซึ่งจะช่วยทำให้การปฏิบัติงานมีประสิทธิภาพและบรรลุเป้าหมายได้ดียิ่งขึ้น					
11. กิจการส่งเสริมให้มีการประยุกต์ใช้เทคนิคและวิธีการจัดการจัดการแบบสมัยใหม่อยู่เสมอ ซึ่งจะช่วยให้การดำเนินงานมีประสิทธิภาพมากยิ่งขึ้น					
12. กิจการให้ความสำคัญในการประยุกต์ใช้เทคโนโลยีสมัยใหม่ในการบริหารจัดการมากยิ่งขึ้น ซึ่งจะช่วยให้มีกระบวนการการบริหารงานบรรลุความสำเร็จมากยิ่งขึ้น					

ตอนที่ 3 (ต่อ)

ศักยภาพการจัดการการปรับเปลี่ยนเชิงกลยุทธ์ (Strategic Transformational Management Capability)	ระดับความคิดเห็น				
	มากที่สุด 5	มาก 4	ปานกลาง 3	น้อย 2	น้อยที่สุด 1
การประยุกต์ใช้กลยุทธ์ธุรกิจเชิงพลวัต (Dynamic Business Strategy Application) 13. กิจการเชื่อมั่นว่าการมีกลยุทธ์การดำเนินงานที่สอดคล้องกับสถานการณ์ จะช่วยทำให้เกิดการสร้างสรรค์กระบวนการดำเนินงานใหม่ที่มีประสิทธิภาพมากยิ่งขึ้น					
14. กิจการมุ่งมั่นในการกำหนดวิธีการในการดำเนินงานที่สอดคล้องกับสถานการณ์ที่เปลี่ยนแปลงไปอยู่เสมอ จะช่วยให้เกิดการปรับปรุงการปฏิบัติงานและเพิ่มประสิทธิภาพการทำงานให้ดียิ่งขึ้น					
15. กิจการสนับสนุนให้มีการบูรณาการกลยุทธ์ต่างๆ เข้าด้วยกันในการดำเนินงานอย่างเป็นระบบ จะช่วยให้การปฏิบัติงานและการดำเนินงานมีประสิทธิภาพมากยิ่งขึ้น					
16. กิจการส่งเสริมให้มีการวิเคราะห์สภาพแวดล้อมและเหตุการณ์ที่จะเกิดขึ้นทั้งในปัจจุบันและอนาคตอย่างต่อเนื่อง ซึ่งจะช่วยให้สามารถบริหารความเสี่ยงและความไม่แน่นอนได้ดียิ่งขึ้น					
การมุ่งเน้นการประยุกต์ใช้เทคโนโลยีในการบริหารจัดการ (Managerial Technological Implementation Orientation) 17. กิจการเชื่อมั่นว่าการมีเทคโนโลยีทางการบริหารจัดการที่ดีจะช่วยทำให้การบริหารงานประสบความสำเร็จได้ดียิ่งขึ้น					
18. กิจการให้ความสำคัญกับจัดสรรงบประมาณเพื่อการลงทุนในเทคโนโลยีมากขึ้น จะช่วยให้กิจการมีการพัฒนารูปแบบการดำเนินงานที่มีประสิทธิภาพได้ดียิ่งขึ้น					

ตอนที่ 3 (ต่อ)

ศักยภาพการจัดการการปรับเปลี่ยนเชิงกลยุทธ์ (Strategic Transformational Management Capability)	ระดับความคิดเห็น				
	มากที่สุด 5	มาก 4	ปานกลาง 3	น้อย 2	น้อยที่สุด 1
19. กิจการมุ่งเน้นให้มีการประยุกต์ใช้เทคโนโลยีในการจัดการสมัยใหม่อยู่เสมอ จะช่วยให้มีกระบวนการการบริหารงานที่มีประสิทธิภาพมากยิ่งขึ้น					
20. กิจการสนับสนุนให้บุคลากรเรียนรู้และทำความเข้าใจเทคโนโลยีสมัยใหม่อย่างต่อเนื่อง ซึ่งจะช่วยให้การปฏิบัติงานมีประสิทธิภาพสูงสุด					

ตอนที่ 4 ความคิดเห็นเกี่ยวกับผลการดำเนินงานของธุรกิจอิเล็กทรอนิกส์และเครื่องใช้ไฟฟ้าในประเทศไทย

ผลการดำเนินงาน	ระดับความคิดเห็น				
	มากที่สุด 5	มาก 4	ปานกลาง 3	น้อย 2	น้อยที่สุด 1
การปรับปรุงการปฏิบัติงานที่มีคุณค่า (Valuable Practice Improvement) 1. กิจการมีการพัฒนาแนวทางการดำเนินงานในการปฏิบัติงานที่ดีอย่างต่อเนื่อง					
2. กิจการมีเทคนิคและวิธีการดำเนินงานแบบใหม่ในการดำเนินงานอยู่เสมอ					
3. กิจการมีการดำเนินงานได้สอดคล้องกับสถานการณ์ต่างๆ ได้ดียิ่งขึ้น					
4. กิจการมีแนวทางในการปฏิบัติงานในเรื่องต่างๆ ได้หลากหลายมากยิ่งขึ้น					

ตอนที่ 4 ต่อ

ผลการดำเนินงาน	ระดับความคิดเห็น				
	มากที่สุด 5	มาก 4	ปานกลาง 3	น้อย 2	น้อยที่สุด 1
การพัฒนากระบวนการใหม่ (New Process Development) 5. กิจการมีขั้นตอนในการดำเนินงานมีประสิทธิภาพมากยิ่งขึ้น					
6. กิจการสามารถพัฒนากระบวนในการตอบสนองต่อความต้องการของลูกค้าได้เหนือกว่าคู่แข่งขันอย่างต่อเนื่อง					
7. กิจการสามารถพัฒนาและสร้างสรรค์ขั้นตอนในการดำเนินงานใหม่ๆ ที่เป็นเลิศตั้งแต่อดีตจนถึงปัจจุบันและดำเนินต่อไปในอนาคต					
8. กิจการมีการพัฒนากระบวนการใหม่ที่มีความแตกต่างและโดดเด่นจากคู่แข่งขันอย่างเห็นได้ชัดเจน					
การสร้างสรรค์วิธีการทำงาน (Working Method Creation) 9. กิจการมีการพัฒนาเทคนิคและวิธีการทำงานแบบใหม่อย่างต่อเนื่อง					
10. กิจการมีวิธีการดำเนินงานที่มีประสิทธิภาพและมีต้นทุนต่ำสุดในการดำเนินงาน					
11. กิจการมีการประยุกต์ใช้รูปแบบวิธีการทำงานที่มีความทันสมัย รวดเร็วและมีประสิทธิภาพ					
12. กิจการมีการปรับเปลี่ยนวิธีการดำเนินงานให้สามารถบรรลุเป้าหมายในอนาคตได้เร็วยิ่งขึ้น					

ตอนที่ 4 (ต่อ)

ผลการดำเนินงาน	ระดับความคิดเห็น				
	มากที่สุด 5	มาก 4	ปานกลาง 3	น้อย 2	น้อยที่สุด 1
ผลการดำเนินงานของกิจการ (Firm Performance) 13. กิจการมีการดำเนินงานเป็นไปตามเป้าหมายและวัตถุประสงค์ที่วางไว้ได้อย่างมีประสิทธิภาพ					
14. กิจการมีส่วนแบ่งตลาดเพิ่มขึ้นอย่างต่อเนื่อง					
15. กิจการมีลูกค้าเก่าและใหม่เข้ามาใช้บริการอย่างต่อเนื่อง					
16. กิจการมีกำไรเพิ่มขึ้นจากปีที่ผ่านมาอย่างชัดเจน					
17. กิจการมีผลการดำเนินงานทั้งที่เป็นตัวเงินและไม่เป็นตัวเงินดียิ่งขึ้น					
ความยั่งยืนของกิจการ (Firm Sustainability) 18. กิจการมั่นใจว่ากิจการจะสามารถดำเนินงานต่อไปได้ในอนาคตอย่างมีประสิทธิภาพ					
19. กิจการมีฐานะทางการเงินดีและโดดเด่นกว่าคู่แข่งขันที่ผ่านมาอย่างต่อเนื่อง					
20. กิจการมีผลการดำเนินงานที่มั่นคงและมีเสถียรภาพ และสามารถดำเนินกิจการต่อไปได้อย่างต่อเนื่องในระยะยาว					
21. กิจการสามารถดำเนินงานภายใต้สถานการณ์ที่เปลี่ยนแปลงต่างๆ ได้อย่างมีประสิทธิภาพ					
22. เมื่อมีสถานการณ์ใดๆ ที่เกิดขึ้น กิจการมั่นใจว่าจะสามารถรับมือกับสถานการณ์อื่นๆ ได้เป็นอย่างดี					

ตอนที่ 5 ความคิดเห็นเกี่ยวกับปัจจัยภายในที่ส่งผลต่อศักยภาพการจัดการการปรับเปลี่ยนเชิงกลยุทธ์ของอิเล็กทรอนิกส์และเครื่องใช้ไฟฟ้าในประเทศไทย

ปัจจัยภายในที่ส่งผลต่อการดำเนินงาน	ระดับความคิดเห็น				
	มากที่สุด 5	มาก 4	ปานกลาง 3	น้อย 2	น้อยที่สุด 1
ผู้นำที่มีการปรับตัวอย่างต่อเนื่อง (Continuous Adaptation Leadership) 1. กิจการเชื่อมั่นว่าการมีภาวะผู้นำที่สอดคล้องกับสถานการณ์จะช่วยให้การกำหนดนโยบายและการดำเนินงานมีประสิทธิภาพมากยิ่งขึ้น					
2. กิจการส่งเสริมให้มีการเรียนรู้การเปลี่ยนแปลงต่างๆ ที่จะเกิดขึ้นทั้งในปัจจุบันและอนาคต ซึ่งจะช่วยให้การวางแผนการดำเนินการต่างๆ สอดคล้องกับสถานการณ์ได้ดียิ่งขึ้น					
3. กิจการส่งเสริมให้มีการติดตามสถานการณ์ต่างๆ ที่เกิดขึ้นอย่างเป็นระบบรูปธรรม จะช่วยให้การปรับตัวต่อสถานการณ์ต่างๆ ในการบริหารงานได้ดียิ่งขึ้น					
4. กิจการมุ่งเน้นให้มีการวิเคราะห์ถึงข้อดีและข้อเสียของสถานการณ์ที่เกิดขึ้นอย่างต่อเนื่อง ซึ่งจะช่วยให้การกำหนดกลยุทธ์ขององค์กรมีประสิทธิภาพมากยิ่งขึ้น					
การจัดการความรู้แบบพลวัต (Dynamic Knowledge Management) 5. กิจการเชื่อมั่นว่าการจัดการความรู้ที่ดี จะช่วยให้กิจการดำเนินงานได้เป็นอย่างดีภายใต้สถานการณ์ที่มีการเปลี่ยนแปลงอย่างต่อเนื่อง					
6. กิจการส่งเสริมให้มีการแลกเปลี่ยนเรียนรู้อย่างเป็นระบบรูปธรรม จะช่วยให้การดำเนินงานมีประสิทธิภาพมากยิ่งขึ้น					
7. กิจการส่งเสริมให้มีการแบ่งปันข้อมูลความรู้ระหว่างกันอยู่เสมอ ซึ่งจะช่วยทำให้การบริหารจัดการบรรลุผลสำเร็จได้ดียิ่งขึ้น					

ตอนที่ 5 (ต่อ)

ปัจจัยภายในที่ส่งผลต่อการดำเนินงาน	ระดับความคิดเห็น				
	มากที่สุด 5	มาก 4	ปานกลาง 3	น้อย 2	น้อยที่สุด 1
8. กิจการสนับสนุนให้มีการบูรณาการความรู้ในองค์กรอย่างเป็นรูปธรรม จะทำให้การดำเนินงานมีประสิทธิภาพมากยิ่งขึ้น					
ความพร้อมของทรัพยากรในองค์กร (Organizational Resource Readiness) 9. กิจการเชื่อมั่นว่าการมีทรัพยากรและสินทรัพย์ที่เพียบพร้อมจะช่วยให้การบริหารงานประสบความสำเร็จได้ดียิ่งขึ้น					
10. กิจการให้ความสำคัญกับการพัฒนาความรู้ของบุคลากรอย่างเป็นระบบจะช่วยทำให้การดำเนินงานบรรลุเป้าหมายได้เป็นอย่างดี					
11. กิจการมุ่งเน้นให้มีการจัดสรรงบประมาณในการบริหารจัดการทุกๆ ด้านอย่างเพียงพอ ซึ่งจะช่วยให้การดำเนินงานเป็นไปตามแผนงานที่วางไว้ได้อย่างมีประสิทธิภาพ					
12. กิจการมุ่งมั่นให้มีการลงทุนทางด้านเทคโนโลยีที่เกี่ยวข้องกับการบริหารจัดการอย่างต่อเนื่อง ซึ่งจะช่วยให้การบริหารจัดการทรัพยากรในองค์กรเกิดประสิทธิภาพสูงสุด					
การเปลี่ยนแปลงในบรรยากาศ(Change Climate) 13. กิจการเชื่อมั่นว่าการเปลี่ยนแปลงในสภาพแวดล้อมในการดำเนินงานปัจจุบัน จะช่วยให้เกิดการพัฒนาและปรับปรุงการดำเนินงานอย่างต่อเนื่อง					
14. กิจการให้ความสำคัญกับการติดตามการเปลี่ยนแปลงต่างๆ ที่เกิดขึ้นในปัจจุบันและในอนาคต ซึ่งจะช่วยให้สามารถปรับทิศทางและแนวทางในการดำเนินงานให้ดียิ่งขึ้น					

ตอนที่ 5 (ต่อ)

ปัจจัยภายในที่ส่งผลต่อการดำเนินงาน	ระดับความคิดเห็น				
	มากที่สุด 5	มาก 4	ปานกลาง 3	น้อย 2	น้อยที่สุด 1
15. กิจการส่งเสริมให้บุคลากรได้ศึกษาเรียนรู้ในการเปลี่ยนแปลงต่างๆ ที่เกิดขึ้น จะช่วยทำให้การบริหารงานในสถานการณ์ไม่แน่นอนมีประสิทธิภาพมากยิ่งขึ้น					
16. กิจการให้ความสำคัญกับการวิเคราะห์ คาดการณ์และพยากรณ์โอกาสและการดำเนินงานที่จะเกิดขึ้นในอนาคต จะช่วยกิจการสามารถบริหารงานได้อย่างมีประสิทธิผลมากขึ้น					
ประสบการณ์ทางธุรกิจที่ดี (Best Business Experience) 17. กิจการเชื่อมั่นว่าการมีประสบการณ์ในการดำเนินธุรกิจที่ดีในอดีต จะช่วยทำให้กิจการสามารถการวางแผนและกำหนดทิศทางในการดำเนินงานในปัจจุบันและอนาคตได้ดียิ่งขึ้น					
18. กิจการส่งเสริมให้บุคลากรนำประสบการณ์ที่ดีในอดีตมาใช้เป็นแนวทางในการดำเนินงานในปัจจุบันอย่างเป็นรูปธรรม ซึ่งจะช่วยให้เกิดการเรียนรู้และกำหนดทิศทางในการดำเนินงานได้ดียิ่งขึ้น					
19. กิจการสนับสนุนให้มีการจัดทำฐานข้อมูลที่เกี่ยวข้องกับประสบการณ์ในการทำงานของบุคลากรในอดีต ซึ่งจะช่วยให้กิจการสามารถนำมาใช้ในการวางแผนและกำหนดแนวทางในการดำเนินงานในปัจจุบันได้มีประสิทธิภาพมากยิ่งขึ้น					
20. กิจการมุ่งเน้นให้มีการประยุกต์ใช้ความรู้ ความเข้าใจเกี่ยวกับการบริหารงานในอดีต มาเป็นข้อมูลในการพัฒนานโยบายการบริหารจัดการของกิจการในปัจจุบันและอนาคต จะช่วยให้การดำเนินงานบรรลุเป้าหมายได้เป็นอย่างดี					

ตอนที่ 6 ความคิดเห็นเกี่ยวกับปัจจัยภายนอกที่ส่งผลต่อศักยภาพการจัดการการปรับเปลี่ยนเชิงกลยุทธ์ของอิเล็กทรอนิกส์และเครื่องใช้ไฟฟ้าในประเทศไทย

ปัจจัยภายนอกที่ส่งผลต่อการดำเนินงาน	ระดับความคิดเห็น				
	มากที่สุด 5	มาก 4	ปานกลาง 3	น้อย 2	น้อยที่สุด 1
ความรุนแรงของแรงกดดันทางการแข่งขัน (Competitive Pressure Intensity) 1. ในปัจจุบันสภาพแวดล้อมทางการแข่งขันมีความรุนแรงเป็นอย่างมาก ทำให้กิจการต่างๆ ต้องแสวงหากลยุทธ์ในการดำเนินงานที่ดีและมีประสิทธิภาพ เพื่อให้สามารถดำเนินงานได้ดียิ่งขึ้น					
2. คู่แข่งขันในปัจจุบันมีศักยภาพมากยิ่งขึ้น ทำให้กิจการต่างๆ ต้องมุ่งเน้นในการพัฒนาขีดความรู้ความสามารถเพื่อให้การดำเนินงานประสบความสำเร็จมากยิ่งขึ้น					
3. เทคโนโลยีมีการเปลี่ยนแปลงอย่างรวดเร็ว ทำให้กิจการต่างๆ ต้องเรียนรู้และทำความเข้าใจ เพื่อให้สามารถใช้ประโยชน์จากเทคโนโลยีต่างๆ ได้ดียิ่งขึ้น					
4. ตลาดมีความผันผวนเป็นอย่างมาก ทำให้กิจการต่างๆ ต้องมุ่งมั่นในการพัฒนาและปรับปรุงเทคนิคและกลยุทธ์ในการดำเนินงานให้ความสามารถตอบสนองได้ดียิ่งขึ้น					

ตอนที่ 7 : ข้อคิดเห็นและข้อเสนอแนะเกี่ยวการบริหารจัดการธุรกิจอิเล็กทรอนิกส์และเครื่องใช้ไฟฟ้าในปัจจุบัน

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ขอขอบพระคุณเป็นอย่างสูงที่ท่านกรุณาสละเวลาตอบแบบสอบถามทุกข้อและได้โปรดพับแบบสอบถามและใส่ซองที่แนบมาพร้อมกันนี้ ส่งคืนผู้วิจัยตามที่อยู่ที่ได้ระบุ

APPENDIX H

Cover Letter and Questionnaire (English Version)

Questionnaire to the Ph. D. Dissertation Research
"Strategic Transformational Management Capability and Firm Sustainability: An Empirical study of Electronic and Electrical Appliance Business in Thailand"

Explanations:

The objective of this research is to investigate "Strategic Transformational Management Capability and Firm Sustainability: An Empirical study of Electronic and Electrical Appliance Business in Thailand". The data will used in analysis of Ph. D. dissertation of branch of management, Accounting and management faculty, Mahasarakham University, Mahasarakham, Thailand.

The researcher may assistance you to answer the questionnaire with consist of 7 sections as below.

Section 1: Personal information about executive of electronic and electrical appliance business in Thailand.

Section 2: General information about electronic and electrical appliance business in Thailand.

Section 3: Opinion on strategic transformational management capability of electronic and electrical appliance business in Thailand.

Section 4: Opinion on business outcomes of electronic and electrical appliance business in Thailand.

Section 5: Opinion on the internal factor that impact on strategic transformational management capability of electronic and electrical appliance business in Thailand.

Section 6: Opinion on the external factor that impact on strategic transformational management capability of electronic and electrical appliance business in Thailand.

Section 7: Recommendations and suggestions regarding strategic transformational management capability of electronic and electrical appliance business in Thailand.

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

If you want a summary of this research, please indicate your E-mail address or attach your business card with this questionnaire. The summary will be mailed to you as soon as the analysis is completed.

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

Sincerely yours,

(Siriwong Earsakul)
Ph.D. Candidate
Mahasarakham Business School
Mahasarakham University, Thailand

Contact Info:
Cell phone: 095-613-8666
E-mail: Nam_1515@hotmail.com

Part 1 Personal information about executive of electronic and electrical appliance business in Thailand.

1. Gender

□ Male □ Female

2. Age

□ Less than 30 years old □ 30 – 40 years old

□ 41 – 50 years old □ More than 50 years old

3. Marital status

□ Single □ Married

□ Divorced

4. Educational levels

□ Bachelor's degree □ Higher than bachelor's degree

5. Working experience

□ Less than 10 years □ 10-20 years

□ 21-30 years □ More than 30 years

6. Average monthly income at present

□ Less than 125,000 Baht □ 125,000-150,000 Baht

□ 150,001-175,000 Baht □ More than 175,001 Baht

7. Current position

□ Managing Director □ Managing partner

□ Other (Please specify).....

Part 2 General information about electronic and electrical appliance business in Thailand.

1. Types of business

□ Company □ Partnership

2. Industrial category

□ Household appliances Electric □ Light bulb

□ Wire and electric cable □ Integrated circuit and electronics

□ Amplifier □ Thermal insulation

□ Other ……..

3. Business location

□ North □ South

□ East □ West

□ Northeast □ Central

□ Bangkok

4. Numbers of employees

□ Less than 50 employees □ 50-100 employees

□ 101-200 employees □ More than 200 employees

5. Operation capital

□ Less than 25,000,000 Baht □ 25,000,000 - 50,000,000 Baht

□ 50,000,001 - 75,000,000 Baht □ More than 75,000,000 Baht

6. Operation periods

□ Less than 10 years □ 10-15 years

□ 16-20 years □ More than 20 years

7. Firm average revenue per year

□ Less than 50,000,000 Baht □ 50,000,000 - 100,000,000 Baht

□ 100,000,001 - 150,000,000 Baht □ More than 150,000,000 Baht

8. Major customers

□ Domestic □Foreign

Section 3: Opinion on strategic transformational management capability of electronic and electrical appliance business in Thailand.

Strategic transformational management capability	Level of Agreement				
	Strongly Agree 5	Agree 4	Neutral 3	Disagree 2	Strongly Disagree 1
Proactive Operational Planning Competency					
1. Firm believes that operational planning which place important on the future will help firm to see clear goal and consistent to the situation well.					
2. Firm places important on situational analyzing in present and future competition which will help firm to set the direction and goal in operation to be clearer.					
3. Firm emphasizes in operational trend research and future operation which can set the operational and vision and they will be more and concentrate systematic.					
4. Firm concentrates to set the operational policy to be consistent with situation which will help firm to have better operation.					
Flexible Organization Structure Focus					
5. Firm believes that operational structure which is flexible and consistent with situation will enhance firm's success.					
6. Firm supports work integrating systematically between employees which will develop process and the direction of operation.					
7. Firm continuously encourage employee to combine and integrate their operation which the firm operation will be more effectively.					
8. Firm places important on experienced and skill full employee's for creating the way in management which will help firm to have better operation.					
9. Firm believes that modern management innovation capability which will develop the new process of working					
Modern Management Innovation Capability					
10. Firm supports employee to create and improve technique and the way to modern operation continuously which will enhance the operation to be more effective.					
11. Firm supports employees to integrate technique and modern management which will enhance the operation to be more effective.					
12. Firm emphasizes in integrating modern technology in management which will enhance the management process to be more effective					
Dynamic Business Strategy Application					
13. Firm believes that work strategy which is consistent with situation will create effective operational process.					
14. Firm emphasizes in set operation to be consistent with situation change continuously which will improve operation and enhance work effective.					
15. Firm supports strategy integrating in systematic operation which will enhance the operation to be more effective.					

Section 3 (Continued)

Strategic transformational management capability	Level of Agreement				
	Strongly Agree 5	Agree 4	Neutral 3	Disagree 2	Strongly Disagree 1
16. Firm supports environment and event analyzing in continuously present and future which will help firm to management risk and unstable situation.					
Managerial Technological Implementation Orientation 17. Firm believes that good technology in management will enhance firm's success.					
18. Firm places important on budget allocating for technology investment will help firm to development operation to be more effective.					
19. Firm emphasizes in implementing modern technology continuously will help operation process to be more effective.					
20. Firm supports employees to learn and understand modern technology continuously which will improve firm's operation.					

Section 4: Opinion on business outcomes of electronic and electrical appliance business in Thailand.

Business Outcome	Level of Agreement				
	Strongly Agree 5	Agree 4	Neutral 3	Disagree 2	Strongly Disagree 1
Valuable Practice Improvement 1. Firm develop the way of good operation.					
2. Firm has technique and new way of operation.					
3. Firm has better operation and it is consistent with many situations.					
4. Firm has various way of operation.					
New Process Development 5. Firm has more effective operational process.					
6. Firm is able to develop process in responding to customer needs beyond its competitors.					
7. Firm is able to develop and create the new operational process since the past until today and continue to the future.					
8. Firm develops the new process which is different and outstanding from its competitors.					
Working Method Creation 9. Firm develops technique and working method continuously.					
10. Firm has effective working method and has lowest cost in operation.					
11. Firm implements modern, quick and effective working method					
12. Firm adapts working method to achieve its goal faster.					

Section 4 (Continued)

Business Outcome	Level of Agreement				
	Strongly Agree 5	Agree 4	Neutral 3	Disagree 2	Strongly Disagree 1
Firm Performance 13. Firm has an operation follow its goal and objectives effectively.					
14. Firm has more market share than before continuously.					
15. Firm has old and new customers to use the firm's services continuously.					
16. Firm has more profit than last year obviously.					
17. Firm has better financial and non-financial performance.					
Firm Sustainability 18. Firm totally believes that it is able to operate effectively in the future.					
19. Firm has greater financial performance and it is more outstanding than its competitors continuously.					
20. Firm has steady and stable performance and it will be able to continue firm's operation in the long term.					
21. Firm is able to operate under situations that usually change effectively.					
22. Firm totally believes that it will be able to deal with other situations well.					

Section 5: Opinion on the internal factor that impact on strategic transformational management capability of electronic and electrical appliance business in Thailand.

Internal factor	Level of Agreement				
	Strongly Agree 5	Agree 4	Neutral 3	Disagree 2	Strongly Agree 5
Continuous Adaptation Leadership 1. Firm believes leadership consistent with situation which will help firm to set policy and to operate the firm better.					
2. Firm supports change learning for leader in the present and in the future which will help firm to plan the operation to consistent with situation better.					
3. Firm supports the leader to follow situation regularly which will help form to adapt itself to many situation.					
4. Firm emphasizes in analyzing advantage and disadvantage of the situation which will help to set the firm strategy effectively.					
Dynamic Knowledge Management 5. Firm believes that well knowledge management which help firm to operate under changing situation better.					
6. Firm supports knowledge exchanging between the leader and employees which will help firm to operate better.					
7. Firm supports knowledge sharing between the leader and employees which will help firm to operate successfully.					

Section 5 (Continued)

Internal factor	Level of Agreement				
	Strongly Agree 5	Agree 4	Neutral 3	Disagree 2	Strongly Agree 5
8. Firm supports knowledge integration which will help firm to operate better.					
Organizational Resource Readiness 9. Firm believes that readiness in asset and resources will help firm operate itself better.					
10. Firm places important on knowledge development systematically of employee which will help firm to achieve it goal.					
11. Firm emphasizes in budget allocation of all department which will help firm to follow its plan effectively.					
12. Firm emphasizes in technology investment of management which will help firm to manage resources effectively.					
Change Climate 12. Firm believes change climate of operation in the present will help firm to develop operation continuously.					
13. Firm places important the changes that can occur in the present and the future which will help firm to adapt direction and operation orientation.					
14. Firm supports employee to learn the changes that occur will help firm to manage uncertain able situation effectively.					
15. Firm places important on analyzing, forecast, and predicting opportunity and operation in the future will help firm to operate effectively.					
Best Business Experience 17. Firm believes that having best business experience will help firm to plan and set direction in operate in the present and the future.					
18. Firm supports employees to use their experiences as the guideline in operating in the present which will help them to learn and set the working direction.					
19. Firm supports making experience database of employees working which will help firm to use experience database for planning easier.					
20. Firm emphasizes in implementing knowledge in the past can be use to develop policy of firm in the present and in the future will help firm to achieve goal well.					

Section 6: Opinion on the external factor that impact on strategic transformational management capability of electronic and electrical appliance business in Thailand.

External factor	Level of Agreement				
	Strongly Agree 5	Agree 4	Neutral 3	Disagree 2	Strongly Agree 5
Competitive Pressure Intensity 1. In the pressure intensity competition, the firm has to find the new good and effective strategy in operation in order to operate well					
2. Since competitors have better competency, firm has to emphasize in knowledge development in order to operate successfully.					
3. Since technology changes fast, firm has to learn and understand the changed technology in order to get the benefit from technology.					
4. Since uncertain market, firm has to emphasizes in developing and improving technique and strategy in operation in order to response to uncertain market better.					

Section 7: Recommendations and suggestions regarding strategic transformational management capability of electronic and electrical appliance 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 the researcher. 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 I

Letters to Experts

บันทึกข้อความ

หน่วยงาน คณะการบัญชีและการจัดการ มหาวิทยาลัยมหาสารคาม โทรศัพท์ 043-754333-3431 Fax 043- 754422

ที่ ศธ.0530.10/ **วันที่** 23 พฤษภาคม 2560

เรื่อง ขอเรียนเชิญเป็นผู้เชี่ยวชาญตรวจสอบเครื่องมือวิจัย

เรียน รองศาสตราจารย์ ดร.ปพฤกษ์บารมี อุดสาหะวาณิชกิจ

ด้วย นางสาวสิริวงษ์ เอียสกุล นิสิตระดับปริญญาเอก หลักสูตรปรัชญาดุษฎีบัณฑิต (ปร.ด.) สาขาวิชาการจัดการ คณะการบัญชีและการจัดการ มหาวิทยาลัยมหาสารคาม กำลังศึกษาวิทยานิพนธ์ เรื่อง "ศักยภาพการจัดการการปรับเปลี่ยนเชิงกลยุทธ์และความยั่งยืนขององค์กร : การศึกษาเชิงประจักษ์ของธุรกิจอิเล็กทรอนิกส์และเครื่องใช้ไฟฟ้าในประเทศไทย" ซึ่งเป็นส่วนหนึ่งของการศึกษาตามหลักสูตรปรัชญาดุษฎีบัณฑิต ดังนั้น เพื่อให้การดำเนินการเป็นไปด้วยความเรียบร้อยและบรรลุตามวัตถุประสงค์ คณะการบัญชีและการจัดการ มหาวิทยาลัยมหาสารคาม จึงใคร่ขอความอนุเคราะห์ท่านเป็นผู้เชี่ยวชาญตรวจสอบเครื่องมือวิจัยและข้อเสนอแนะเพื่อนำข้อมูลที่ได้ไปดำเนินการทำวิทยานิพนธ์ต่อไป ตามเอกสารแนบท้าย

จึงเรียนมาเพื่อโปรดพิจารณา

(ผู้ช่วยศาสตราจารย์ ดร.นิติพงษ์ ส่งศรีโรจน์)
คณบดีคณะการบัญชีและการจัดการ

บันทึกข้อความ

หน่วยงาน คณะการบัญชีและการจัดการ มหาวิทยาลัยมหาสารคาม โทรศัพท์ 043-754333-3431 Fax 043- 754422

ที่ ศธ.0530.10/ วันที่ 13 มิถุนายน 2560

เรื่อง ขอเรียนเชิญเป็นผู้เชี่ยวชาญตรวจสอบเครื่องมือวิจัย

เรียน อาจารย์ ดร.ประทานพร จันทร์อินทร์

ด้วย นางสาวสิริวงษ์ เอียสกุล นิสิตระดับปริญญาเอก หลักสูตรปรัชญาดุษฎีบัณฑิต (ปร.ด.) สาขาวิชาการจัดการ คณะการบัญชีและการจัดการ มหาวิทยาลัยมหาสารคาม กำลังศึกษาวิทยานิพนธ์ เรื่อง "ศักยภาพการจัดการการปรับเปลี่ยนเชิงกลยุทธ์และความยั่งยืนขององค์กร : การศึกษาเชิงประจักษ์ของธุรกิจอิเล็กทรอนิกส์และเครื่องใช้ไฟฟ้าในประเทศไทย" ซึ่งเป็นส่วนหนึ่งของการศึกษาตามหลักสูตรปรัชญาดุษฎีบัณฑิต ดังนั้น เพื่อให้การดำเนินการเป็นไปด้วยความเรียบร้อยและบรรลุตามวัตถุประสงค์ คณะการบัญชีและการจัดการ มหาวิทยาลัยมหาสารคาม จึงใคร่ขอความอนุเคราะห์ท่านเป็นผู้เชี่ยวชาญตรวจสอบเครื่องมือวิจัยและข้อเสนอแนะเพื่อนำข้อมูลที่ได้ไปดำเนินการทำวิทยานิพนธ์ต่อไป ตามเอกสารแนบท้าย

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2016 The Effect of Big-five Personality and Transformational Leadership on Firm Performance: A Conceptual Framework.